

Maintenance and Service Manual



ENTERVAN

Wheelchair-Accessible Lowered Floor Conversion

featuring 2002 and Newer
GM Minivans

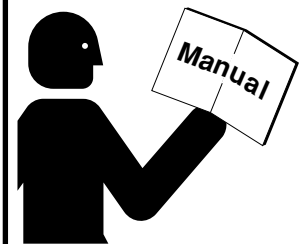


THE BRAUN CORPORATION®
"Providing Access to the World"®

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! WARNING



**Read manual
before servicing.
Failure to do so
may result in
serious bodily
injury and/or
property damage.**

INTRODUCTION

The Braun Entervan lowered floor conversion is designed to provide years of pleasure and mobility independence. Familiarity with proper operation and maintenance procedures will help ensure safe, troublefree operation.

WARNING

Maintenance, lubrication, troubleshooting and service procedures must be performed as specified by an authorized service technician. Failure to do so may result in serious bodily injury and/or property damage.

Consumer and commercial Entervans are addressed in this manual. Safety precautions, maintenance and troubleshooting details are provided. A Repair Parts section with exploded views and corresponding parts lists are also provided.

Refer to the information applicable for the conversion you are servicing and disregard the information that does not apply.

A detailed warranty section is included. Refer to the Return Authorization Procedure when filling a warranty claim or ordering parts.

Contact The Braun Corporation at 1-800-THE LIFT if any of this information is not understood.

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In-Floor Ramp Entervan Service Supplement 30530

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Maintenance and Service Requirements

Braun Entervans must be maintained and serviced by a Braun authorized service representative who has attended and been certified by The Braun Corporation Sales and Service School for Braun Mobility Products.

Read and become familiar with the operating procedures outlined in the Entervan operator's manual and the maintenance and troubleshooting information contained in this manual before beginning operation, maintenance or service procedures.

Contact The Braun Corporation at 1-800-THE LIFT if any of this information is not understood.

One-Touch Control System

Entervan power functions are managed by the One-Touch electronic control system. The control system can be activated using the GM remote keyless entry transmitter, any of the interior-mounted control switches, or the optional magnetic entry.

Braun Corporation Aftermarket Control Systems Policy: The Braun Corporation manufactures dedicated control systems for its products. These control systems have been designed and tested for use in conjunction with specific Braun products. Braun control systems are the **only** control systems authorized for use with Braun products.

Do not attempt to interface aftermarket control systems without authorization from The Braun Corporation. **To do so may result in serious bodily injury and/or property damage.**

Safety Precautions

⚠ WARNING

Read this manual, the Entervan operator's manual and supplements before performing operation, maintenance or service procedures. Failure to do so may result in serious bodily injury and/or property damage.

- ⚠ WARNING Maintenance and service procedures must be performed only by authorized service personnel.
- ⚠ WARNING Perform maintenance and lubrication procedures exactly as outlined in the Maintenance and Lubrication Schedule contained in this manual.
- ⚠ WARNING Perform troubleshooting and service procedures as outlined in this manual and/or service bulletins supplied with replacement parts.
- ⚠ WARNING Replacement parts must be Braun authorized replacements.
- ⚠ WARNING Do not attempt to interface aftermarket control systems without authorization from The Braun Corporation.

- ⚠ WARNING Do not use accessory devices not authorized by The Braun Corporation.
- ⚠ WARNING Keep clear of area in which the vehicle kneels (lowers).
- ⚠ WARNING Keep clear of area in which ramp operates.
- ⚠ WARNING Never modify (alter) a Braun Corporation Entervan.
- ⚠ WARNING Do not install a raised top on an Entervan.
- ⚠ WARNING Failure to follow these safety precautions may result in serious bodily injury and/or property damage.

Maintenance and Lubrication Schedule

Normal vehicle maintenance must be performed as outlined in the GM-supplied owner's manual. This maintenance is not the responsibility of The Braun Corporation. Refer to the Warranty section of this manual for details regarding The Braun Corporation Entervan Warranty.

The maintenance and lubrication procedures specified in this schedule **must** be performed by a Braun authorized service representative at the scheduled intervals according to the number of cycles or elapsed time, whichever comes first.

Discontinue Entervan use immediately if maintenance and lubrication procedures are not properly performed, or if there is any sign of improper operation,

damage, wear or any abnormal condition. Contact your sales representative or call The Braun Corporation at 1-800-THE LIFT. One of our national Product Support representatives will direct you to an authorized service technician who will inspect your Entervan.

Lubrication: Entervan ramps are equipped with sealed bearings and Teflon™ bushings that do not require lubrication. Coated ramp and kneel system chains do not require lubrication as well.

Light penetrating oil (30 weight or equivalent) should be applied where *Light Oil is indicated. LPS2 General Purpose Penetrating Oil is recommended by and available from The Braun Corporation. Eleven ounce aerosol

cans can be ordered under part number 15807. Severe conditions (weather, environment, heavy usage, etc.) **may** require more frequent lubrication. When replacing lubed components, be sure to lubricate during installation procedures.

WARNING

Maintenance and lubrication procedures must be performed as specified by an authorized service technician. Failure to do so may result in serious bodily injury and/or property damage.

4 Weeks or 100 Cycles	Outboard ramp extension hinge	Clean and lubricate with *Light Oil
	Kneel actuator manual release assembly	Apply *Light Oil to release handle pivot point
	Swing-out ramp latch (if equipped)	Clean and lubricate with *Light Oil. Inspect for proper operation, wear or damage.
	Lower power slide door track	Inspect for obstructions and clean (sweep out)
	Wheelchair and occupant restraint belts	Inspect for any defects such as cuts, fraying or any malfunction of belt, buckle or securement hardware. Replace immediately if defective.
	Inspect removable seat bases for proper engagement of latching mechanisms	Replace or correct as needed
	Inspect ramp inboard pivot points (mounting bolts and bushings) for positive securement, wear or damage	Tighten, replace or correct as needed
	Inspect ramp fold pickup bearing for positive securement, alignment, wear or other damage	Replace or correct as needed. If bearing retainment screw is not secure or is removed for service, apply Blue #242 Thread Locker Loctite to retaining screw and tighten.

continued

Maintenance and Lubrication Schedule

<div>continued</div> <div>4 Weeks or 100 Cycles</div>	<div>Inspect ramp fold arm bearing slot for excessive wear or damage</div> <div>Replace if needed</div> <div>Inspect 3/8-16 x 3/4" flanged button head socket cap screw securing the ramp pivot pin bushing for positive securement</div> <div>If screw is not secure or is removed for service, apply Blue #242 Thread Locker Loctite to screw and tighten.</div> <div>Inspect ramp extension chain for proper alignment, securement or other defects</div> <div>Realign, resecure, replace or otherwise correct as needed</div> <div>Inspect ramp floor mounting hardware for securement (loose or missing)</div> <div>Resecure, replace or correct as needed</div> <div>Inspect cotter pin securing top pivot (wall mounting) bracket pin</div> <div>Resecure, replace or correct as needed</div> <div>Inspect the 1/4-20 x 3/4" button head bolt and ramp support/catch pin (UHMW) for positive securement</div> <div>If bolt is not secure or is removed for service, apply Blue #242 Thread Locker Loctite to screw and tighten. Replace ramp support pin (UHMW) if worn or damaged.</div>
<div>1 Year or 1250 Cycles</div>	<div>Perform all procedures listed in previous section also</div> <div> Power Ramps: Remove ramp motor cover and inspect: <ul style="list-style-type: none"> • Top pivot (wall mounting) bracket mounting bolts for securement (loose or missing) • Motor mounting bolts for securement (loose or missing) • Ramp fold arm securement (collar and mounting screws) • Microswitches securement and adjustment • Microswitch wires and terminals for securement or damage </div> <div> Manual Ramps: Remove torsion spring cover and inspect: <ul style="list-style-type: none"> • Top pivot (wall mounting) bracket mounting bolts for securement (loose or missing) • Spring housing mounting bolts for securement (loose or missing) • Ramp fold arm securement (collar and mounting screws) • Torsion spring securement external snap ring (loose or missing) </div> <div>Inspect power source: OEM battery, 30 ampere circuit breaker, OEM engine compartment fuse block and passenger side center console-mounted fuse block.</div> <div> Resecure, adjust microswitches, replace defective parts or otherwise correct as needed. Note: See Power Ramp Motor Assembly exploded views on pages 24 and 26. Resecure, replace defective parts or otherwise correct as needed. Note: See applicable Manual Ramp exploded views on pages 28-34. Resecure, repair or replace </div>

Maintenance and Lubrication Schedule

1 Year or 1250 Cycles	<p>Inspect kneel actuator assembly for:</p> <ul style="list-style-type: none"> • Actuator mounting pin securement (loose or missing “E” clips) • Inspect chain for misalignment, wear or damage • Inspect chain cotter pins for securement • Inspect chain aluminum idler (pulley) for securement, wear, damage or misalignment • Inspect electrical harnesses for positive connections, proper routing, wear or other damage • Release cable securement (turnbuckle connection at motor, jam nuts, and cotter pin on release handle) • Release cable alignment, routing, kinks, wear, or other damage <p>Swing-out ramp system (if equipped) - inspect:</p> <ul style="list-style-type: none"> • Latch for proper operation (apply *Light Oil) • Latch mounting hardware for positive securement (loose or missing mounting hardware) • Swing-out latch pin for positive securement, wear, misalignment, or other damage • Missing or damaged ramp top pivot bracket securement cotter pin (hairpin cotter or “R” clip) • Top and/or bottom ramp pivot points (axles and/or bearing surfaces) for deformation, wear or other damage • Bottom ramp pivot pin (axle) plastic flanged bearing damaged or missing. • Latch release rod (Series 03 and 04) or cable (Series 01) for positive securement, alignment, wear, or other damage
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Realign, resecure or replace defective parts or otherwise correct as needed. **Note:** See Kneel Actuator Assembly exploded view on page 36 and Kneel Actuator Manual Release Assembly exploded view on page 37.

Realign, resecure, tighten, lubricate, replace defective parts or otherwise correct as needed.

Troubleshooting Diagnosis Chart

⚠ WARNING

Troubleshooting and repair procedures must be performed as specified by an authorized service technician only. Failure to do so may result in serious bodily injury and/or property damage.

If a problem occurs with your Entervan, **discontinue operation immediately! Do not** attempt repairs yourself. Contact your sales representative or call The Braun Corporation at 1-800-THE LIFT. One of our national Product Support representatives will direct you to an authorized service technician who will inspect your Entervan.

The cause of the problem can be determined by locating the function and related symptom in

the Troubleshooting Diagnosis Charts. The specific cause and remedy can then be determined by process of elimination. Electrical Schematics and Wiring Diagrams are provided to aid in troubleshooting.

A Repair Parts section with exploded views and corresponding parts lists is also provided. **Correct the problem if possible. If the problem continues, contact The Braun Corporation.**

FUNCTION	SYMPTOM	POSSIBLE CAUSE	REMEDY
1.00 NO OPERATION	1.10 No Power To Entervan Systems (Circuit Problem)	1.11 Poor ground connection 1.12 Battery terminals dirty 1.13 Battery defective 1.14 Battery discharged 1.15 12 volt source (check fuses for 12 volts) 1.16 Circuit breaker tripped or faulty	Clean and tighten Clean and tighten Replace Charge battery Check for blown fuse, loose terminals or broken wire or cable Reset or Replace
	1.20 Power to Entervan Systems But No Operation	1.21 Transmission not in Park 1.22 Loose connection 1.23 Broken wire 1.24 Wire terminal 1.25 Control switch defective 1.26 Braun electronic controller	Engage transmission in Park Clean and tighten Repair or replace Crimp tightly to wire Replace Run serial diagnostic test and/or reset by unplugging 6-pin connector from the controller for 30 seconds.
2.00 KNEEL SYSTEM (LOWER)	2.10 No Lower Operation	2.11 See 1.00 2.12 Kneel actuator brake manual release handle left in "release" position or other kneel actuator manual release problem. 2.13 Actuator harness disconnected, damaged or otherwise defective 2.14 Actuator defective 2.15 Chain disconnected, damaged or otherwise defective	Correct or repair as needed Connect, repair or replace Replace Connect, repair or replace
	2.20 Faulty Kneel (Lower) Operation	2.21 Mechanical binding 2.22 Misalignment or damage to kneel system components. Inspect kneel actuator assembly for: <ul style="list-style-type: none"> • Actuator mounting pin ("E" Clip) securement (loose or missing) • Inspect chain for wear, misalignment, or other damage • Inspect chain aluminum idler for securement, wear, damage or misalignment 	Check and correct Connect, replace or otherwise correct as needed

Troubleshooting Diagnosis Chart

FUNCTION	SYMPTOM	POSSIBLE CAUSE	REMEDY
3.00 POWER DOOR (OPEN)	3.10 No Open Operation (Motor Does Not Run)	3.11 See 1.00 3.12 Loss of power while door was open or door left open for more than 4 hours. 3.13 Door microswitch(es) defective 3.14 Door operator motor harness disconnected or defective 3.15 Door operator motor defective 3.16 Overhead console power override switch is in the ON position.	Restore power and manually close door to reset power door operation. See Braun Service Center See Braun Service Center See GM Service Center Press power override switch once to return power to the door circuit.
	3.20 Motor Runs But Door Does Not Move	3.21 Misaligned or otherwise damaged drive cable or door track 3.22 Door motor clutch failure	See GM Service Center See GM Service Center
	3.30 Faulty Open Operation	3.31 Obstruction in door path 3.32 Mechanical binding	Remove obstruction Check and correct
	3.40 Door Does Not Open Fully	3.41 Door Fully Opened microswitch out of adjustment or defective 3.42 See 3.30	See Braun Service Center
4.00 RAMP UNFOLD	4.10 No Unfold Operation	4.11 See 1.00 and 3.41 4.12 Ramp motor harness disconnected or defective 4.13 Loose, damaged or missing fold arm securement collar and/or screws 4.14 Ramp Unfolded microswitch out of adjustment or defective 4.15 Ramp motor defective	Connect, repair or replace Tighten, replace or otherwise correct as needed Adjust or replace Replace motor
	4.20 Ramp Contacts Door	4.21 Door not fully open 4.22 Swing-out ramp latch (if equipped) not fully engaged (ramp not latched)	See Braun Service Center Engage latch fully or repair swing-out ramp latch system
	4.30 Faulty Unfold Operation	4.31 Ramp Unfolded microswitch harness disconnected or defective 4.32 Ramp Unfolded microswitch out of adjustment or defective 4.33 Misalignment or damage to: • Ramp fold bearing • Ramp fold arm • Ramp fold arm bearing slot • Ramp pivot points or hinge(s) 4.34 Mechanical binding 4.35 Fold/unfold assist spring broken, disconnected or otherwise defective (manual ramps only) 4.36 See 3.41 and 4.14	Connect, repair or replace Adjust or replace Realign, tighten, replace defective parts or otherwise correct as needed Check and correct Connect or replace spring

continued

Troubleshooting Diagnosis Chart

FUNCTION	SYMPTOM	POSSIBLE CAUSE	REMEDY
4.00 RAMP UNFOLD	4.40 Faulty Ramp Extension Unfold	4.41 Ramp extension chain broken, detached, misaligned or otherwise defective	Replace, attach, realign or otherwise correct
		4.42 Lack of lubrication	Lubricate - See Maintenance and Lubrication Schedule
5.00 RAMP FOLD	5.10 No Fold Operation	5.11 See 1.00 5.12 Ramp Folded microswitch out of adjustment or defective 5.13 See 3.41, 4.12, 4.13 and 4.15	Adjust or replace
	5.20 Faulty Fold Operation	5.21 Ramp Folded microswitch harness disconnected or defective 5.22 Fold arm support/stop out of adjustment 5.23 See 3.41, 4.13, 4.14, 4.33, 4.34, and 4.42	Connect, repair or replace Adjust support/stop for more travel
6.00 POWER DOOR (CLOSE)	6.10 No Close Operation	6.11 See 3.10, 4.12 and 5.12	
	6.20 Motor Runs - Door Does Not Move	6.21 See 3.20	
	6.30 Faulty Operation	6.31 See 3.30	
	6.40 Door Does Not Close Fully	6.41 See 3.30	
	6.50 Door Contacts Ramp When Closing	6.51 Outboard ramp extension hinge not properly lubricated, obstructed or otherwise damaged 6.52 See 5.12 and 5.22	Clean and lubricate with *Light Oil, remove obstruction or otherwise correct
7.00 KNEEL SYSTEM (RAISE)	7.10 No Raise Operation	7.11 See 1.00, 2.13, 2.14, 2.15 and 2.20	
	7.20 Faulty Operation	7.21 See 2.12 and 2.20	
8.00 REMOTE CONTROL	8.10 No Operation	8.11 See 3.16 8.12 See GM vehicle owner's manual	

Troubleshooting Diagnosis Chart

FUNCTION	SYMPTOM	POSSIBLE CAUSE	REMEDY
9.00 KNEEL ACTUATOR MANUAL RELEASE	9.10 No Operation	9.11 Manual release handle missing 9.12 Release cable broken, disconnected, or otherwise defective 9.13 Kneel actuator brake defective	Replace Connect, repair or replace Replace actuator
	9.20 Faulty Operation	9.21 Lack of lubrication 9.22 Release cable out of adjustment, out of alignment, routing obstruction, kinked, worn or otherwise damaged 9.23 Manual release handle damaged	Apply *Light Oil on manual release handle pivot. Adjust, align, reroute, remove kinks, otherwise repair or replace Replace
10.00 SWING OUT RAMP SYSTEM (if equipped)	10.10 No Release Operation	10.11 Release rod (Series 03 and 04) or cable (Series 01) broken, disconnected or otherwise defective 10.12 Faulty swing-out ramp latch (will not disengage)	Connect or replace rod (Series 03) or cable (Series 01) Replace latch
	10.20 Faulty Release Operation	10.21 Loose, worn or otherwise damaged swing-out ramp latch 10.22 Missing, loose, worn, bent, misaligned or otherwise damaged swing-out ramp latch pin 10.23 Mechanical binding 10.24 Lack of lubrication to latch	Tighten, replace or otherwise correct as needed Tighten, replace or otherwise correct as needed Correct as needed Lubricate with *Light Oil
	10.30 Faulty Rotation Operation	10.31 Missing plastic flanged bearing at bottom pivot point (axle) 10.32 Misalignment, deformation, wear or other damage to top and/or bottom pivot points (axles and/or bearing surfaces) 10.33 Misalignment, deformation, looseness, wear or other damage to inboard ramp support weldment, or floor and lower slide door track assembly 10.34 UHMW floor guide (button) damaged or missing - Series 01 10.35 Mechanical binding	Replace washer Correct as needed Correct as needed Replace guide Correct as needed
	10.40 No Latching Operation	10.41 Faulty swing-out ramp latch (will not engage) 10.42 See 7.20	Replace latch
	10.50 Faulty Latching Operation	10.51 See 10.11, 10.20, 10.33 and 10.41	

Auxiliary Power Supply

⚠CAUTION

Do not connect auxiliary devices to vehicle battery. Doing so may result in damage to electrical system and/or electronic components.

Do not connect auxiliary devices directly to the vehicle battery. Doing so **may result in damage to electrical system and/or electronic components.**

Two fuse blocks are provided as an auxiliary power source for

dealer-installed auxiliary electrical device(s). Fuse block details and specifications are provided below. The fuse blocks are located on the passenger side of the dash center console. Access the fuse blocks as outlined on page 11.

Below Floor Obstructions:

When installing aftermarket equipment in an Entervan, obstructions below the floor must be avoided. Obstructions include wiring, fuel system, brake lines, etc. Installers must be aware of these obstructions.

Refer to the illustration on page 12 to avoid contacting or damaging vital components under the floor.

⚠WARNING



Risk of electrical fire! Install and electrically terminate Auxiliary electrical device as specified by device manufacturer.

Fuse Blocks:

Two fuse blocks are provided for use as an auxiliary power source (one **Ignition** fuse block and one **Battery** fuse block).

The Battery fuse block provides power at all times (independent of the vehicle ignition). The Ignition fuse block supplies power when the vehicle ignition is on only.

Each fuse block can accommodate up to five additional ATO® type fuses (specifications at right). The **total maximum load (combination of both fuse blocks) must not exceed 50 amperes.**

The **installer is responsible for supplying the correct gauge wire and fuse** for the particular device to be attached to the fuse block (**as specified** by the manufacturer of the device).

Fuse Specifications:

Ignition Fuse Block: Fuses installed in all fuse positions must not exceed 15 amperes (total **cannot** exceed 50 amperes).

Battery Fuse Block: Amperage of fuses installed in the Battery fuse block is dependent upon fuses installed in the Ignition fuse block. The **total maximum load (combination of both fuse blocks) must not exceed 50 amperes.**

Note: If installing an auxiliary electrical device that requires more than a 50 ampere power source, an alternative power source must be provided.

Ignition Fuse Block



Battery Fuse Block

Auxiliary Power Supply

Auxiliary Power Supply

Do not connect auxiliary devices directly to the vehicle battery. Doing so **may result in damage to electrical system and/or electronic components.**

Two fuse blocks are provided as an auxiliary power source. This power source is available for installation of a dealer-installed power seat, an electric tie-down or other auxiliary electrical device (details on page 10).

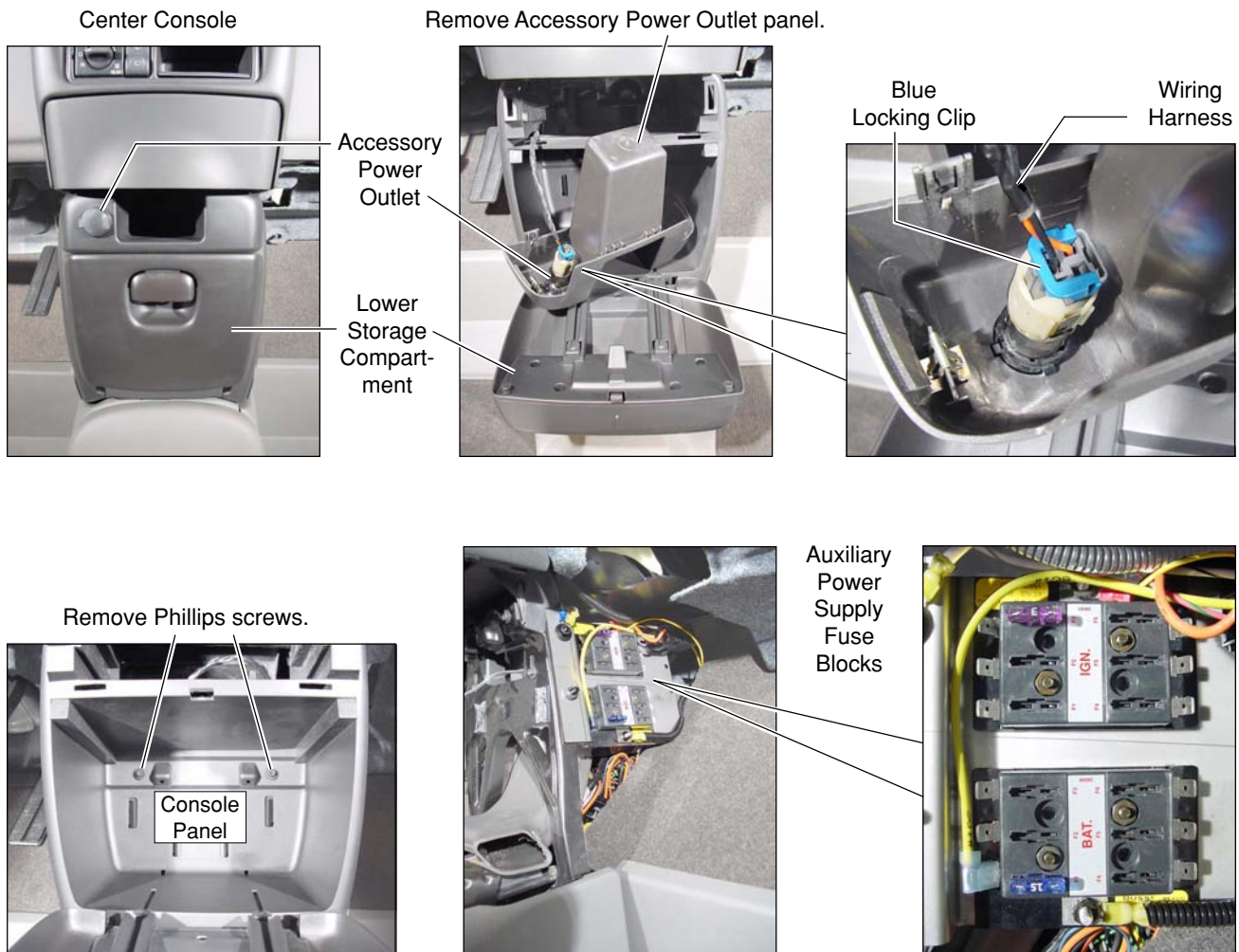
Fuse Block Access Instructions

The fuse blocks are located on the passenger side of the dash center console. Remove the center console components as outlined here to access the fuse blocks.

Open the lower storage compartment. **Carefully** remove the Accessory Power Outlet panel (secured with two spring-type fasteners - one at both sides). Pull out the panel. **Caution! Do not** strain or otherwise damage the Power Outlet wiring harness during removal.

Caution! Carefully disconnect the Accessory Power Outlet wiring harness. Remove the blue locking clip and disconnect harness plug.

Remove the two Phillips screws securing the console main plastic panel (located inside the lower storage compartment). Remove the console panel. The Entervan auxiliary power supply fuse blocks are located to the right side of the console area as shown below.



Below Floor Obstructions

Below Floor Obstructions

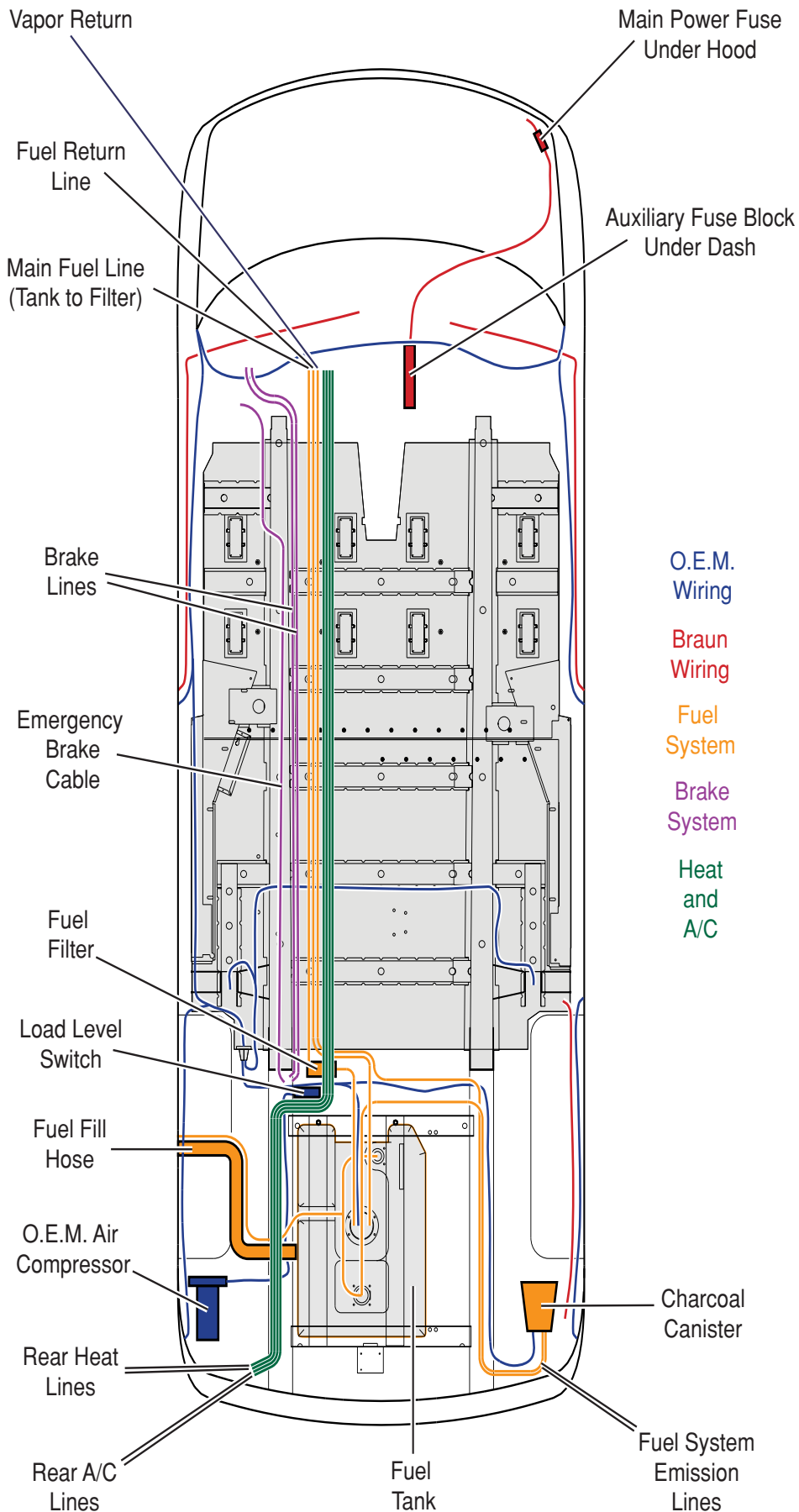
When installing an electrical tie-down, power seat or other auxiliary electrical device in an Entervan, obstructions below the floor must be avoided. Obstructions include wiring, fuel system, brake lines, etc. Installers must be aware of these obstructions.

⚠ WARNING

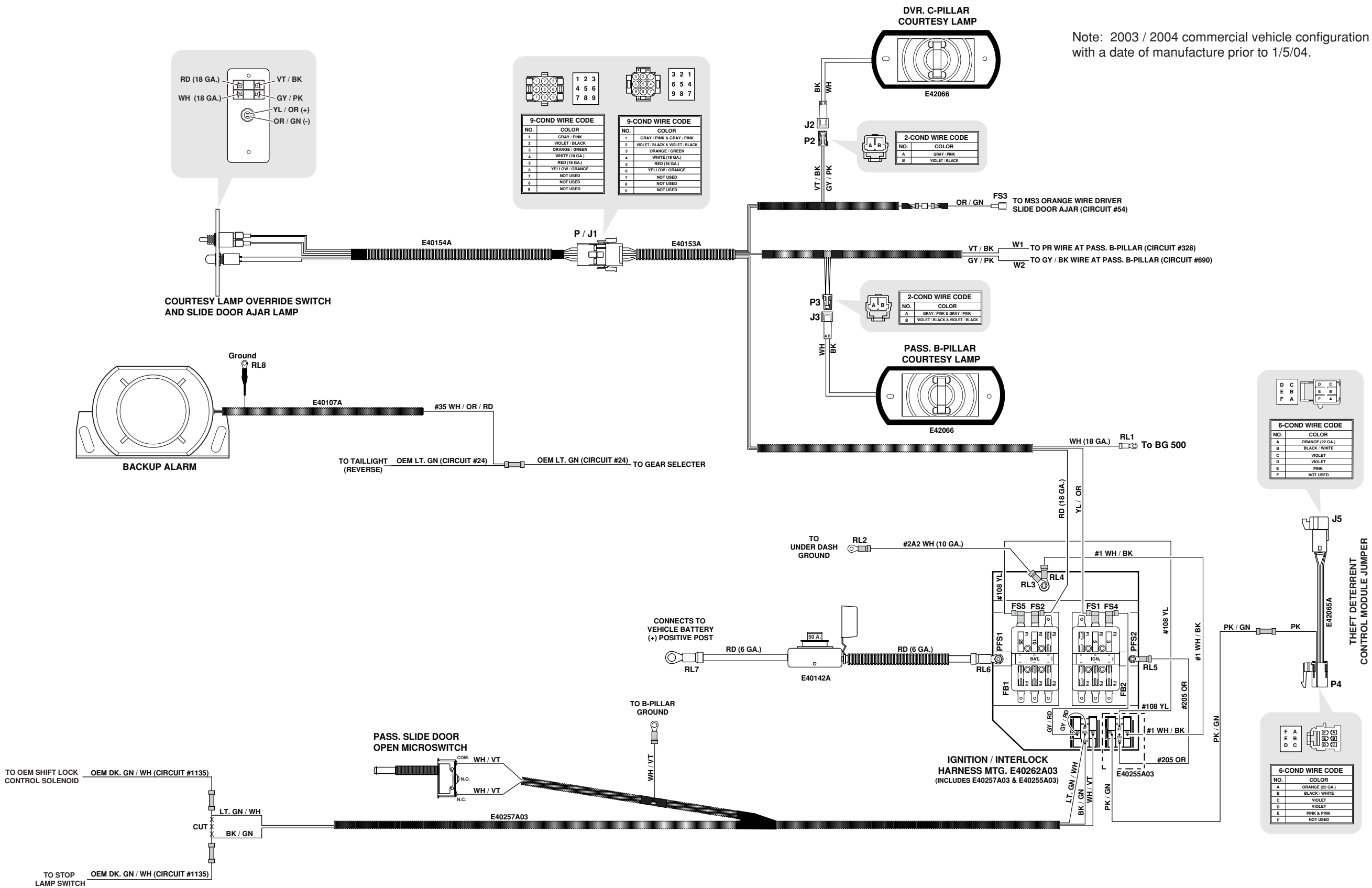
Check for obstructions such as wires, gas lines, exhaust, etc. before drilling or cutting through floor. Failure to do so may result in serious bodily injury and/or property damage.

Refer to the illustration when installing aftermarket equipment to avoid contacting or damaging vital components under the floor. **Drilling or cutting into such obstructions may result in potential hazards as well as property damage.**

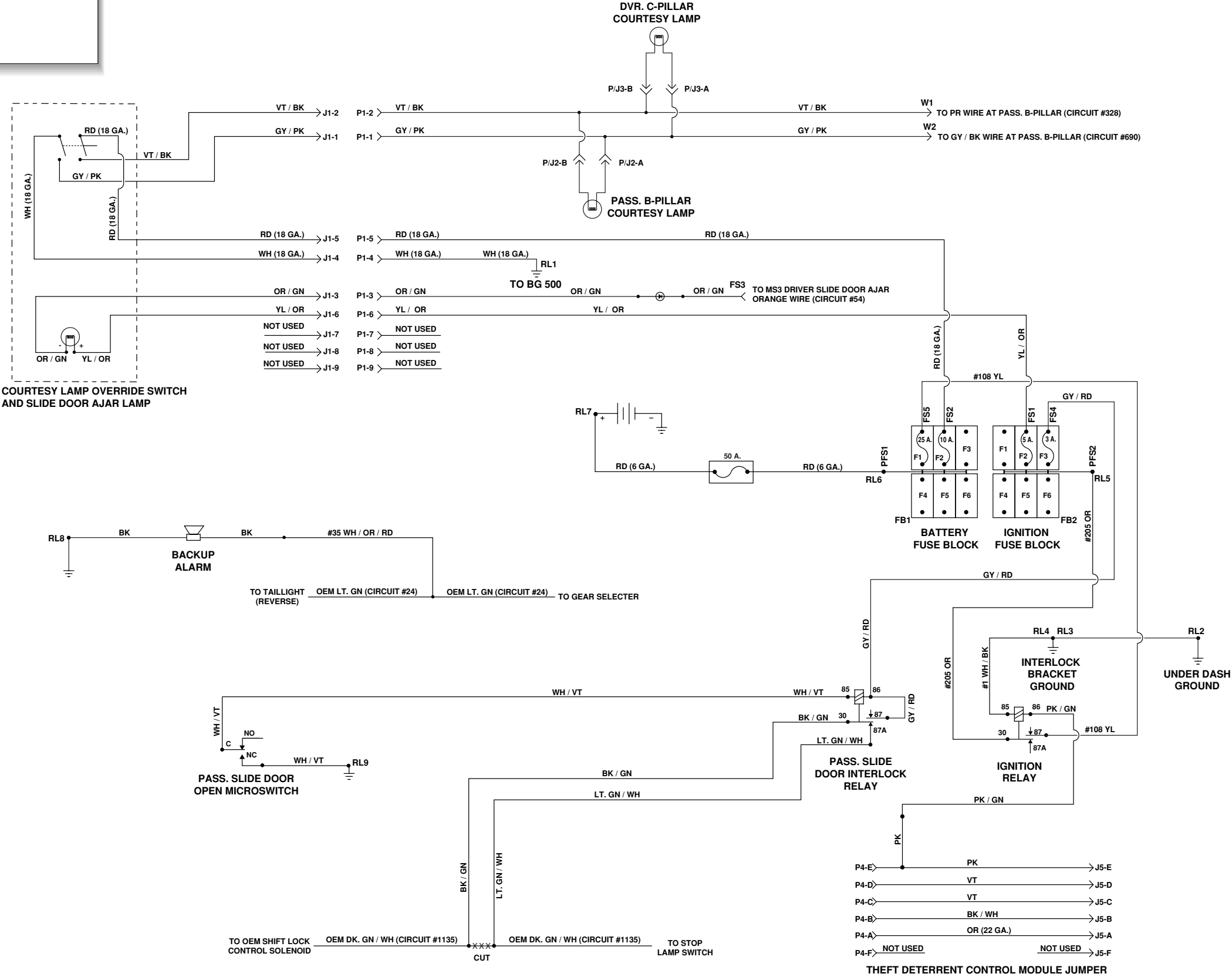
Note: Some wiring harnesses shown may not be present. Avoid all harness locations.



Pre-2004 Commercial Entervan Wiring Diagram



Pre-2004 Commercial Entervan Electrical Schematic

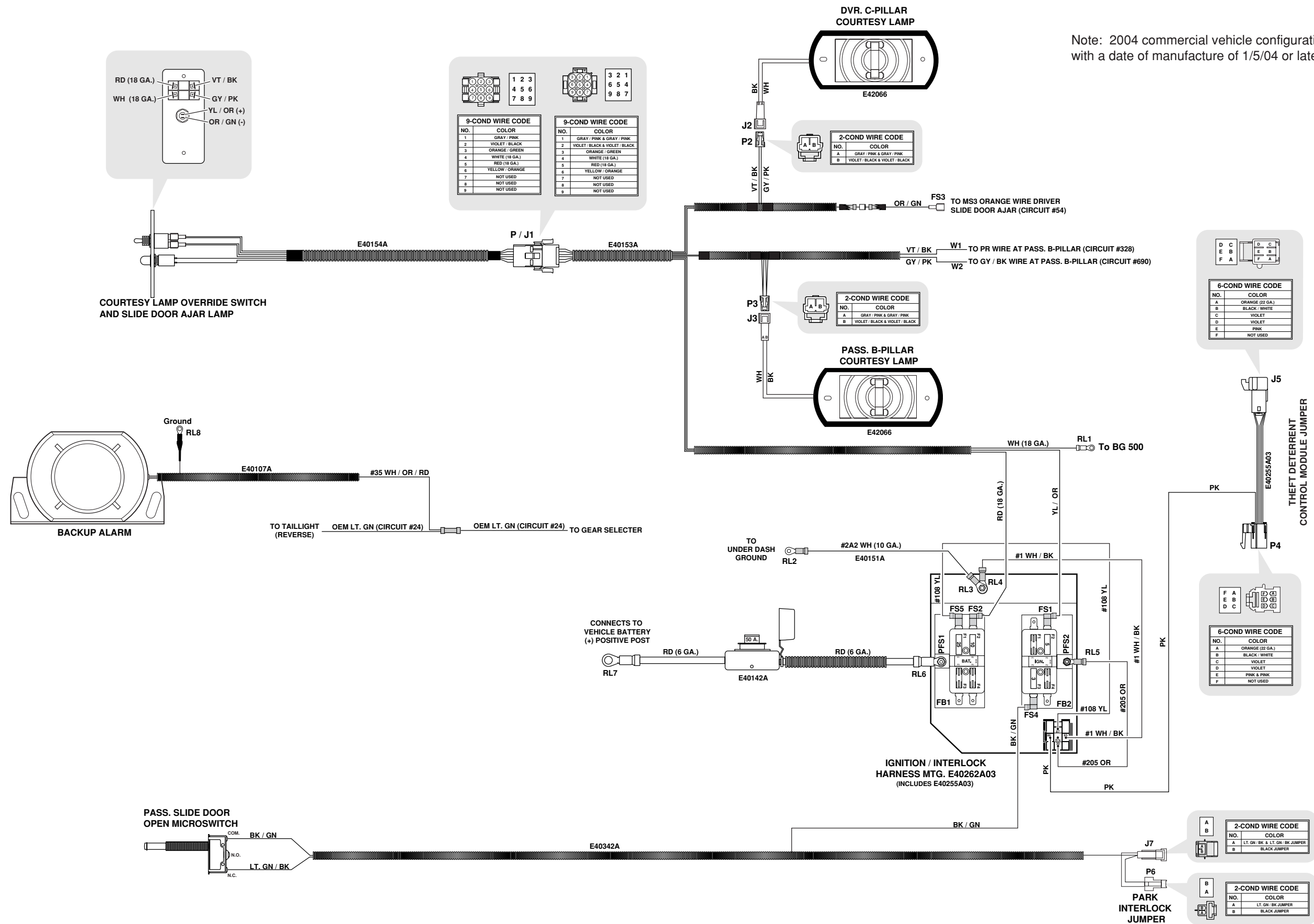


Note: 2003 / 2004 commercial vehicle configuration with a date of manufacture prior to 1/5/04.

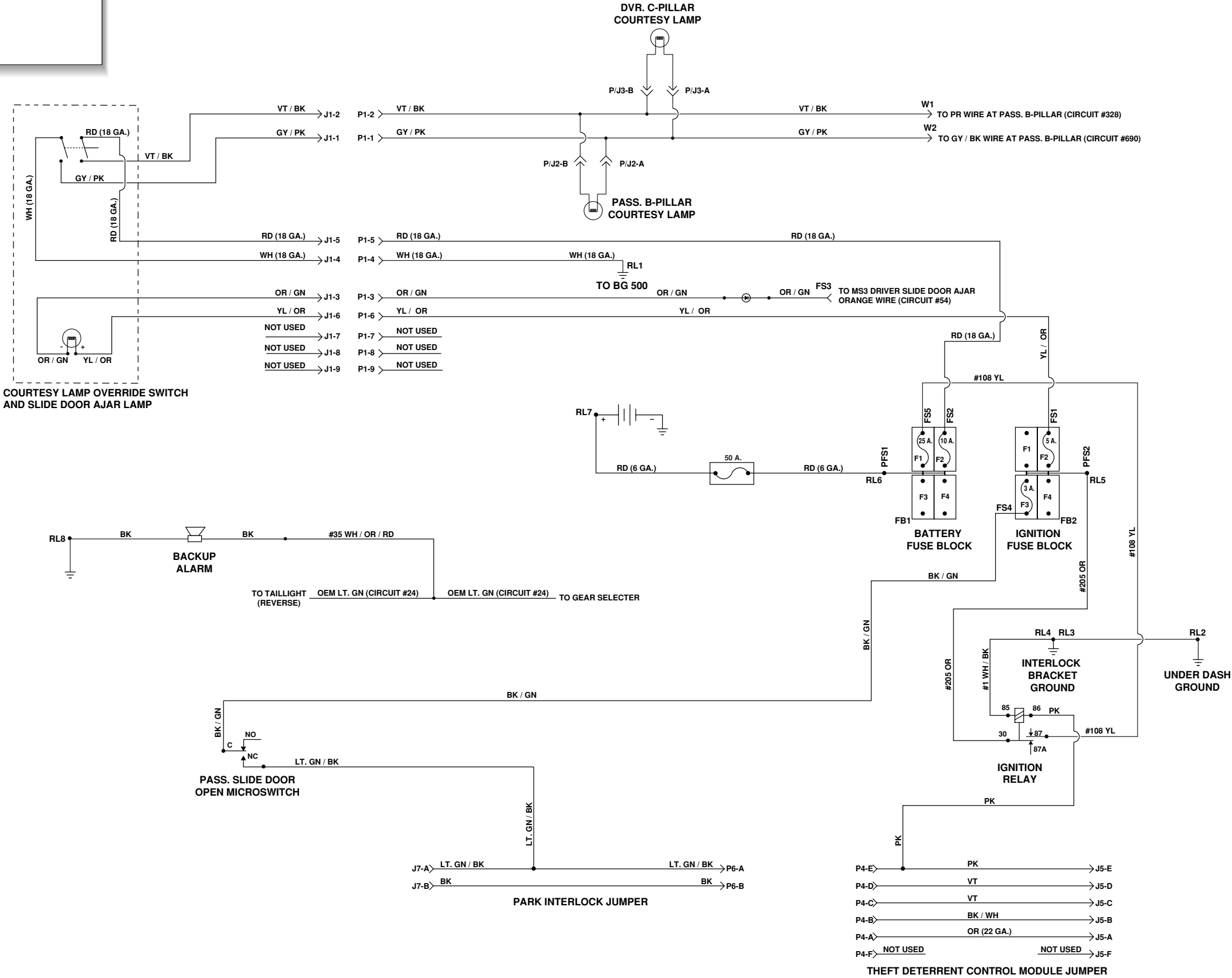
DESCRIPTION	SYMBOL
BATTERY	
CHASSIS GROUND	
FUSE	
CONNECTORS	
JUNCTION	
BACKUP ALARM	
SWITCH	
MICROSWITCH	
RELAY	
DIODE	
LAMP	

2004 Commercial Entervan Wiring Diagram

Note: 2004 commercial vehicle configuration with a date of manufacture of 1/5/04 or later.



2004 Commercial Entervan Electrical Schematic



Note: 2004 commercial vehicle configuration with a date of manufacture of 1/5/04 or later.

DESCRIPTION	SYMBOL
BATTERY	
CHASSIS GROUND	
FUSE	
CONNECTORS	
JUNCTION	
BACKUP ALARM	
SWITCH	
MICROSWITCH	
RELAY	
DIODE	
LAMP	

24-COND WIRE CODE

NO.	COLOR / FUNCTION	NO.	COLOR / FUNCTION
1	NOT USED	13	NOT USED
2	A) GREY / RED (18 GA) — MAGNETIC ENTRY (PRE-02/01/04)	14	NOT USED
3	B) GREY / RED (20 GA) — MAGNETIC ENTRY (02/01/04)	15	WHITE (20 GA) — STOWED SIGNAL
4	LT. GREEN (20 GA) — PARK SIGNAL	16	BLACK / BLUE (18 GA) — CLUTCH POWER FROM PSDM
5	A) BLUE / ORANGE (18 GA) — DOOR OPEN SIGNAL (PRE-02/01/04)	17	WHITE / VIOLET (18 GA) — POWER TO CLUTCH
6	B) ORANGE / LT. BLUE (20 GA) — DOOR OPEN SIGNAL (02/01/04)	18	WHITE / BLACK (20 GA) — GROUND (SOME MODELS MAY HAVE (2) WHITE / BLACK WIRES AT THIS PIN.)
7	NOT USED	19	NOT USED
8	YELLOW / BLACK (18 GA) — DOOR AJAR SIGNAL	20	BLACK / ORANGE (18 GA) — POWER TO DOOR MOTOR
9	BLACK (20 GA) — DEPLOYED SIGNAL	21	BLACK / YELLOW (18 GA) — DOOR POWER FROM PSDM
10	LT. BLUE (20 GA) — DOOR OPEN SIGNAL IN	22	NOT USED
11	YELLOW / WHITE (18 GA) — DOOR OPEN SIGNAL OUT	23	NOT USED
12	ORANGE / BLACK (20 GA) — UNLOCK SIGNAL	24	NOT USED
13	NOT USED		
14	NOT USED		
15	NOT USED		
16	NOT USED		
17	NOT USED		
18	NOT USED		
19	NOT USED		
20	NOT USED		
21	NOT USED		
22	NOT USED		
23	NOT USED		
24	NOT USED		

3-COND WIRE CODE

NO.	COLOR
A	YELLOW / BLACK (20 GA.)
B	ORANGE (20 GA.)
C	BK (20 GA) & WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	YELLOW / BLACK (18 GA) x 2
2	WHITE / BLACK (20 GA)

6-COND WIRE CODE

NO.	COLOR
A	LT. BLUE (20 GA.)
B	NOT USED
C	NOT USED
D	NOT USED
E	WHITE / BLACK (20 GA.)
F	NOT USED

4-COND WIRE CODE

NO.	COLOR
1	BLACK / ORANGE (18 GA)
2	BLACK / YELLOW (18 GA)
3	WHITE / VIOLET (18 GA)
4	BLACK / BLUE (18 GA)

6-COND WIRE CODE

NO.	COLOR
1	WHITE / RED / ORANGE (12 GA)
2	ORANGE / BLACK (12 GA)
3	BLACK (20 GA)
4	WHITE (20 GA)
5	WHITE / BLACK (20 GA)
6	NOT USED

9-COND WIRE CODE

NO.	COLOR
1	#20 WHITE / RED / ORANGE
2	#21 ORANGE / BLACK
3	#201 BLACK
4	#1 WHITE
5	#207 WHITE / BLACK
6	NOT USED

9-COND WIRE CODE

NO.	COLOR
7	BLACK (20 GA)
8	BLACK (20 GA)
9	BLACK (20 GA)
10	LT. BLUE / BLUE (18 GA)
11	BLACK (20 GA)
12	BLACK (20 GA)
13	BLACK (20 GA)
14	BLACK (20 GA) & LT. GN (20 GA)
15	BLACK (20 GA)

4-COND WIRE CODE

NO.	COLOR
A	BLACK (20 GA)
B	ORANGE / BLACK (20 GA) x 2
C	BLACK (20 GA)
D	BLACK (20 GA)

4-COND WIRE CODE

NO.	COLOR
A	BLACK (20 GA)
B	ORANGE / BLACK (20 GA) x 2
C	BLACK (20 GA)
D	BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) BLUE / ORANGE (18 GA) (PRE-02/01/04)
2	B) ORANGE / LT. BU (20 GA) (02/01/04)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PRE-02/01/04)
2	B) GREY / RED (20 GA) (02/01/04)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PRE-02/01/04)
2	B) GREY / RED (20 GA) (02/01/04)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) BLUE / ORANGE (18 GA) (PRE-02/01/04)
2	B) ORANGE / LT. BU (20 GA) (02/01/04)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PRE-02/01/04)
2	B) GREY / RED (20 GA) (02/01/04)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PRE-02/01/04)
2	B) GREY / RED (20 GA) (02/01/04)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PRE-02/01/04)
2	B) GREY / RED (20 GA) (02/01/04)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PRE-02/01/04)
2	B) GREY / RED (20 GA) (02/01/04)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

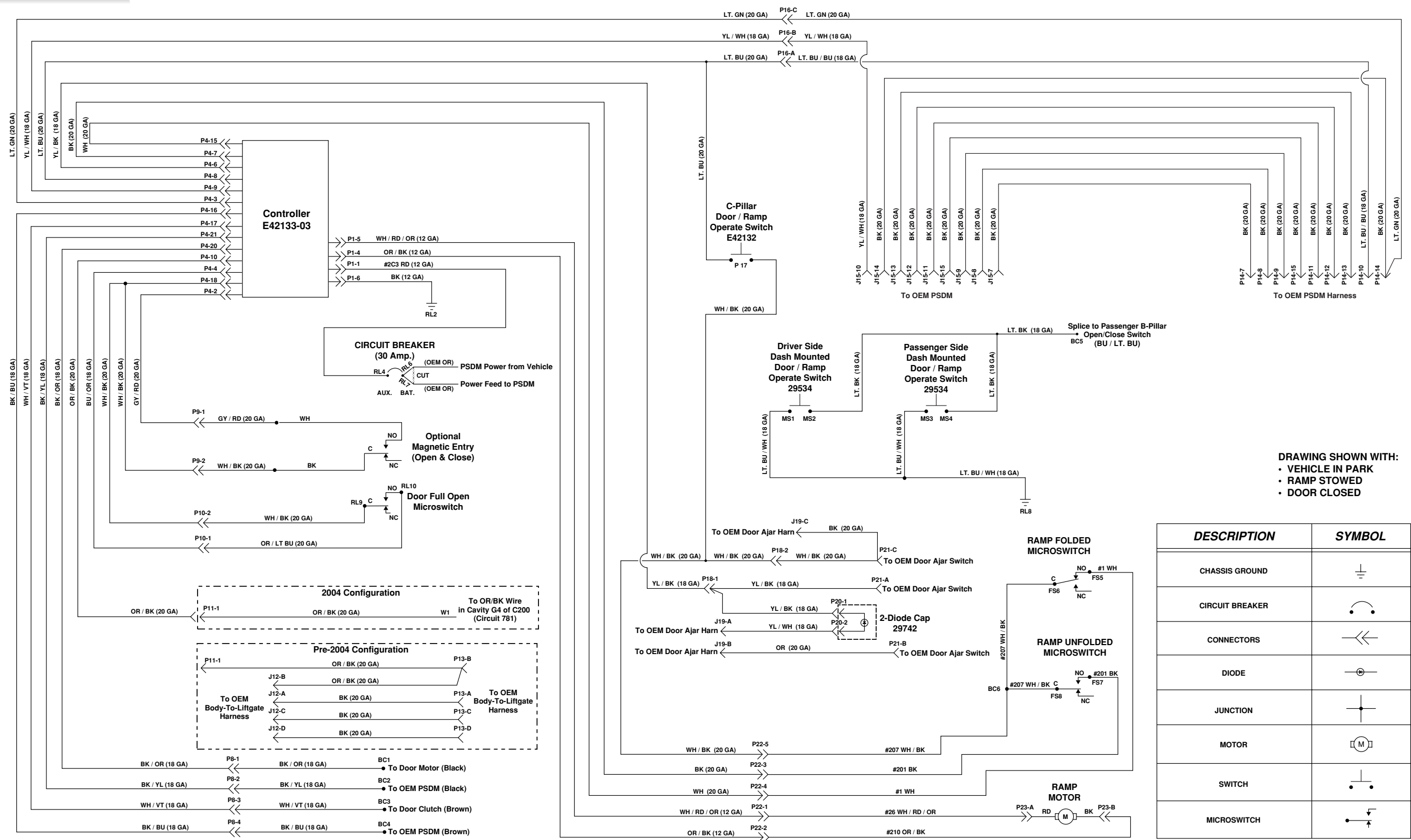
NO.	COLOR
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2	B) GREY / RED (20 GA) (02/01/04)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
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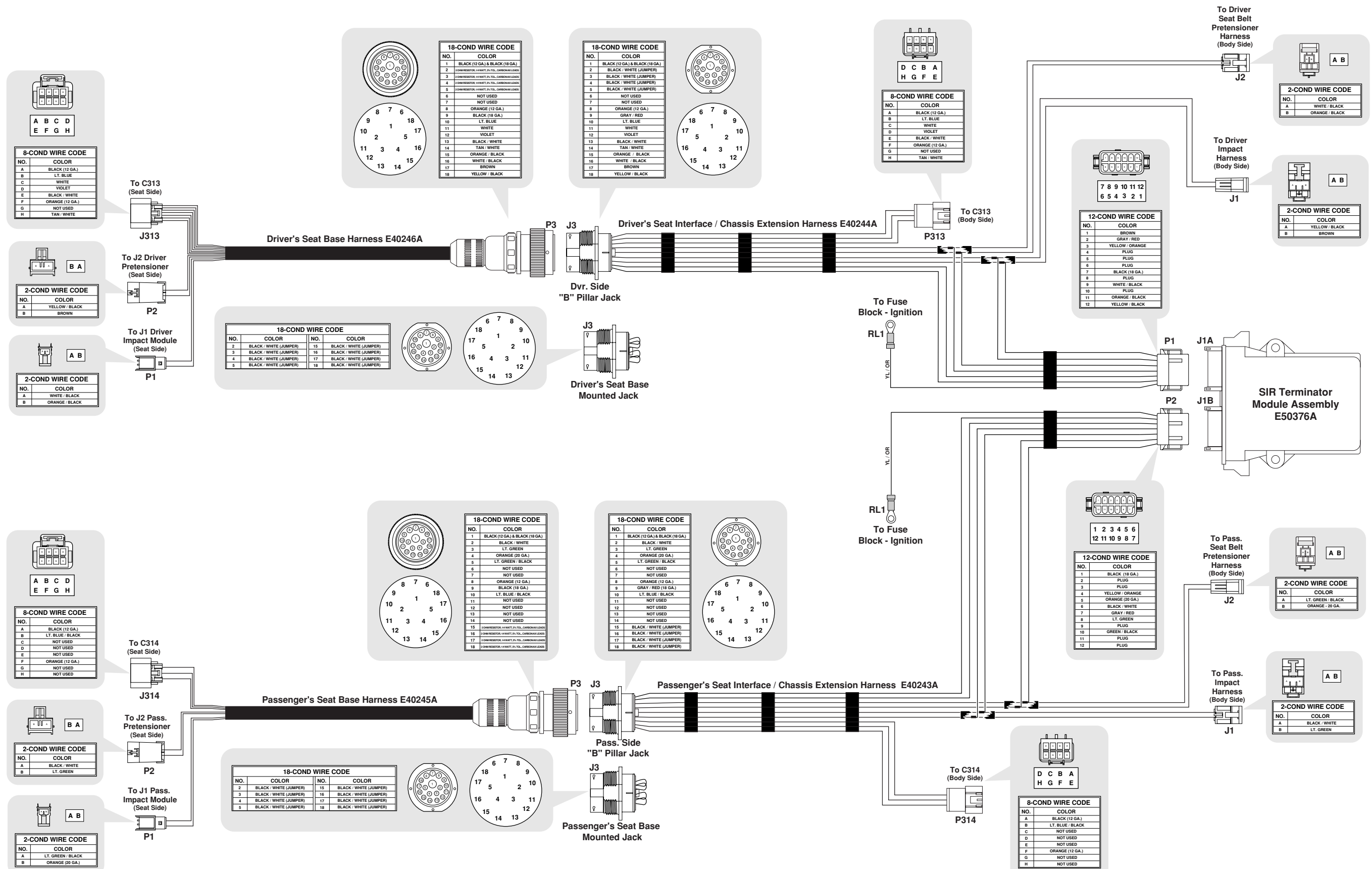
Unfold for:
Series 01
Power Door and Ramp
Wiring Diagram

Series 01 Power Door and Ramp Electrical Schematic

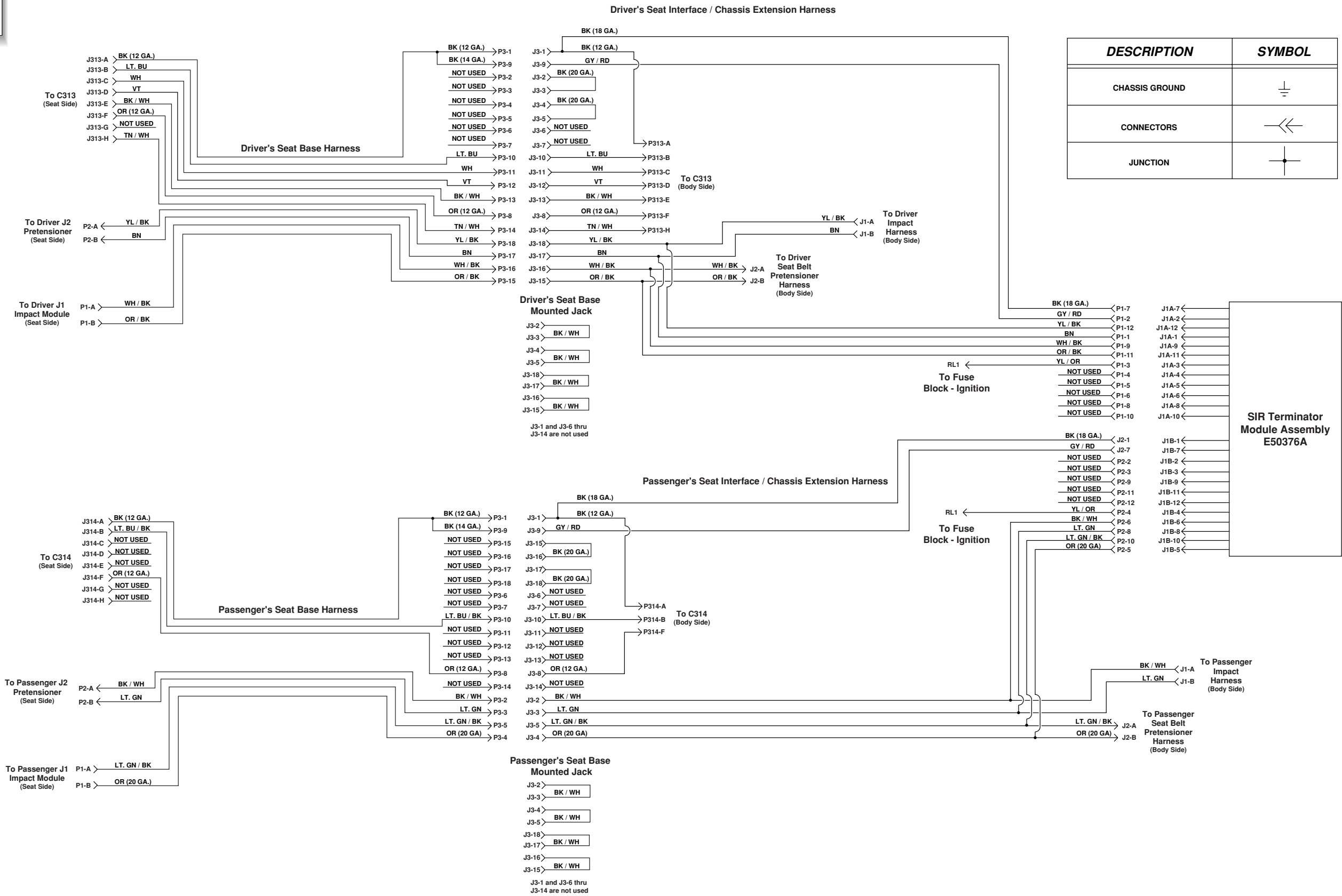


DRAWING SHOWN WITH:
• VEHICLE IN PARK
• RAMP STOWED
• DOOR CLOSED

Series 01 Seat Base/B-Pillar Wiring Diagram



Series 01 Seat Base/B-Pillar Electrical Schematic



24-COND WIRE CODE

NO.	COLOR / FUNCTION	NO.	COLOR / FUNCTION
1	NOT USED	13	NOT USED
2	A) GREY / RED (18 GA) — MAGNETIC ENTRY (PMS-00104)	14	NOT USED
3	B) GREY / RED (20 GA) — MAGNETIC ENTRY (00104)	15	WHITE (20 GA) — STOWED SIGNAL
4	LT. GREEN (20 GA) — PARK SIGNAL	16	BLACK / BLUE (18 GA) — CLUTCH POWER FROM PSDM
5	A) BLUE / ORANGE (18 GA) — DOOR OPEN SIGNAL (PMS-00104)	17	WHITE / VIOLET (18 GA) — POWER TO CLUTCH
6	B) ORANGE / LT. BLUE (20 GA) — DOOR OPEN SIGNAL (00104)	18	WHITE / BLACK (20 GA) — GROUND (SOME MODELS MAY HAVE (2) WHITE / BLACK WIRES AT THIS PIN.)
7	NOT USED	19	NOT USED
8	YELLOW / BLACK (18 GA) — DOOR AJAR SIGNAL	20	BLACK / ORANGE (18 GA) — POWER TO DOOR MOTOR
9	BLACK (20 GA) — DEPLOYED SIGNAL	21	BLACK / YELLOW (18 GA) — DOOR POWER FROM PSDM
10	LT. BLUE (20 GA) — DOOR OPEN SIGNAL IN	22	NOT USED
11	YELLOW / WHITE (18 GA) — DOOR OPEN SIGNAL OUT	23	NOT USED
12	ORANGE / BLACK (20 GA) — UNLOCK SIGNAL	24	NOT USED

6-COND WIRE CODE

NO.	COLOR / FUNCTION
1	#2C3 RED (12 GA.) — POWER
2	WHITE / RED (12 GA.) — COM.
3	NOT USED
4	ORANGE / BLACK (12 GA.) — RAMP OND
5	WHITE / RED / ORANGE (12 GA.) — RAMP PWR
6	BLACK (12 GA.) — GROUND

8-COND WIRE CODE

NO.	COLOR
A	WHITE JUMPER (20 GA.)
B	WHITE / GREY (20 GA.)
C	BLACK (20 GA.)
D	WHITE / GREY (20 GA.)
E	WHITE / GREY (20 GA.)
F	WHITE / GREY (20 GA.)
G	WHITE / GREY (20 GA.)
H	WHITE / GREY (20 GA.)

8-COND WIRE CODE

NO.	COLOR
A	WHITE JUMPER (20 GA.)
B	WHITE / GREY (20 GA.)
C	BLACK / GREY (20 GA.)
D	WHITE / GREY (20 GA.)
E	WHITE / GREY (20 GA.)
F	WHITE / GREY (20 GA.)
G	WHITE / GREY (20 GA.)
H	WHITE / GREY (20 GA.)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

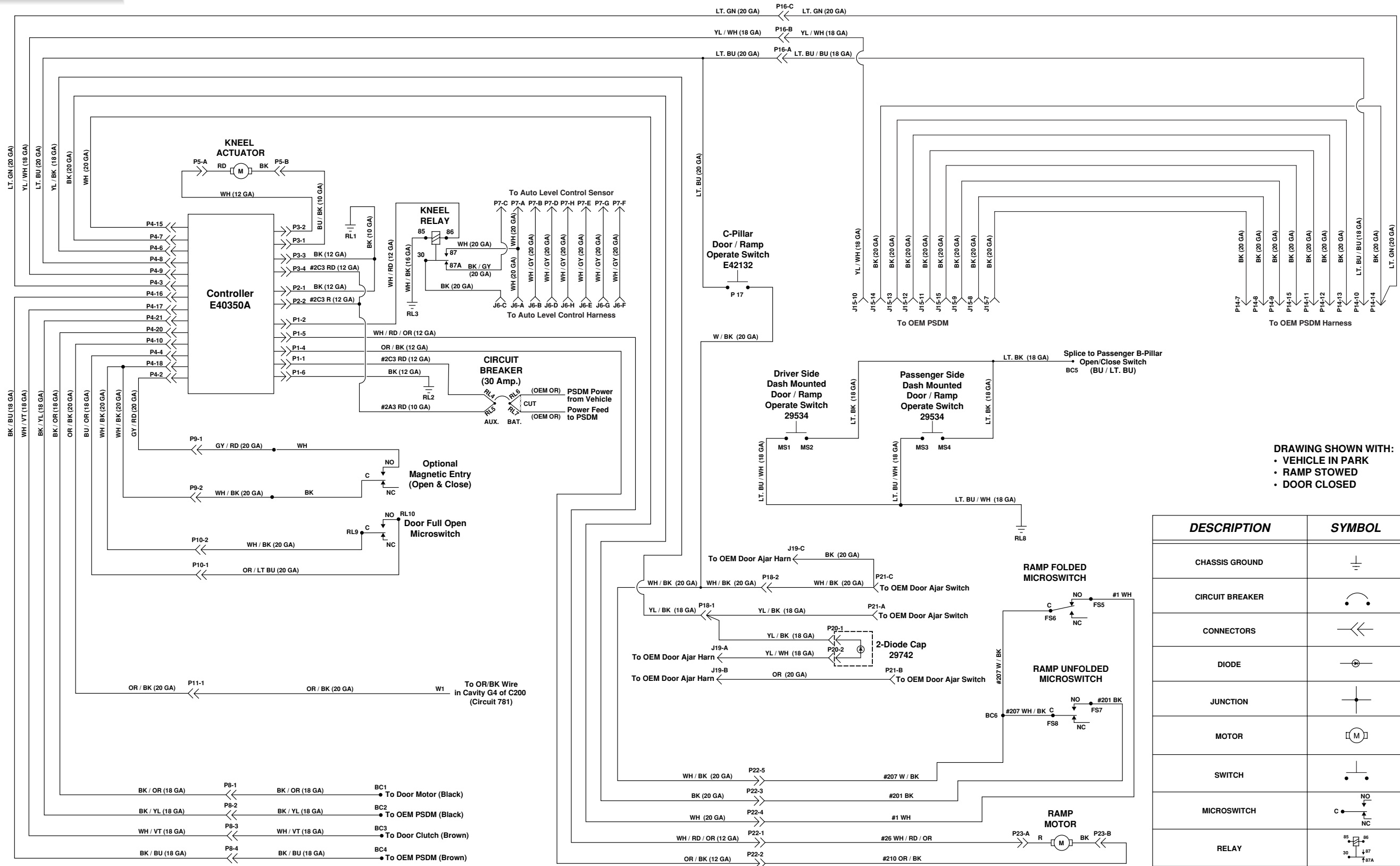
2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)
2	B) GREY / RED (20 GA) (00104)
3	WHITE / BLACK (20 GA)

2-COND WIRE CODE

NO.	COLOR
1	A) GREY / RED (18 GA) (PMS-00104)

Series 01 Power Door, Ramp and Kneel Electrical Schematic



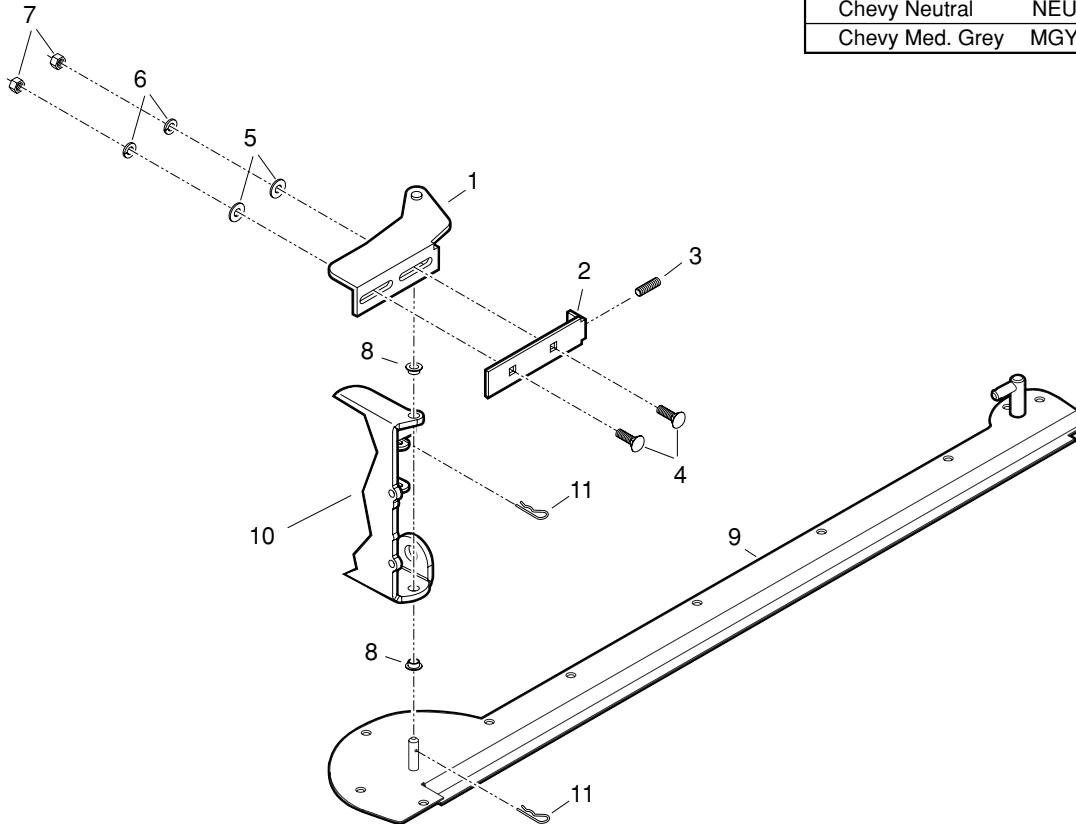
DRAWING SHOWN WITH:
• VEHICLE IN PARK
• RAMP STOWED
• DOOR CLOSED

Repair Parts

Series 03 Wall-Mounted Pivot and Threshold Assembly

??? Represents color. Order parts per applicable color.

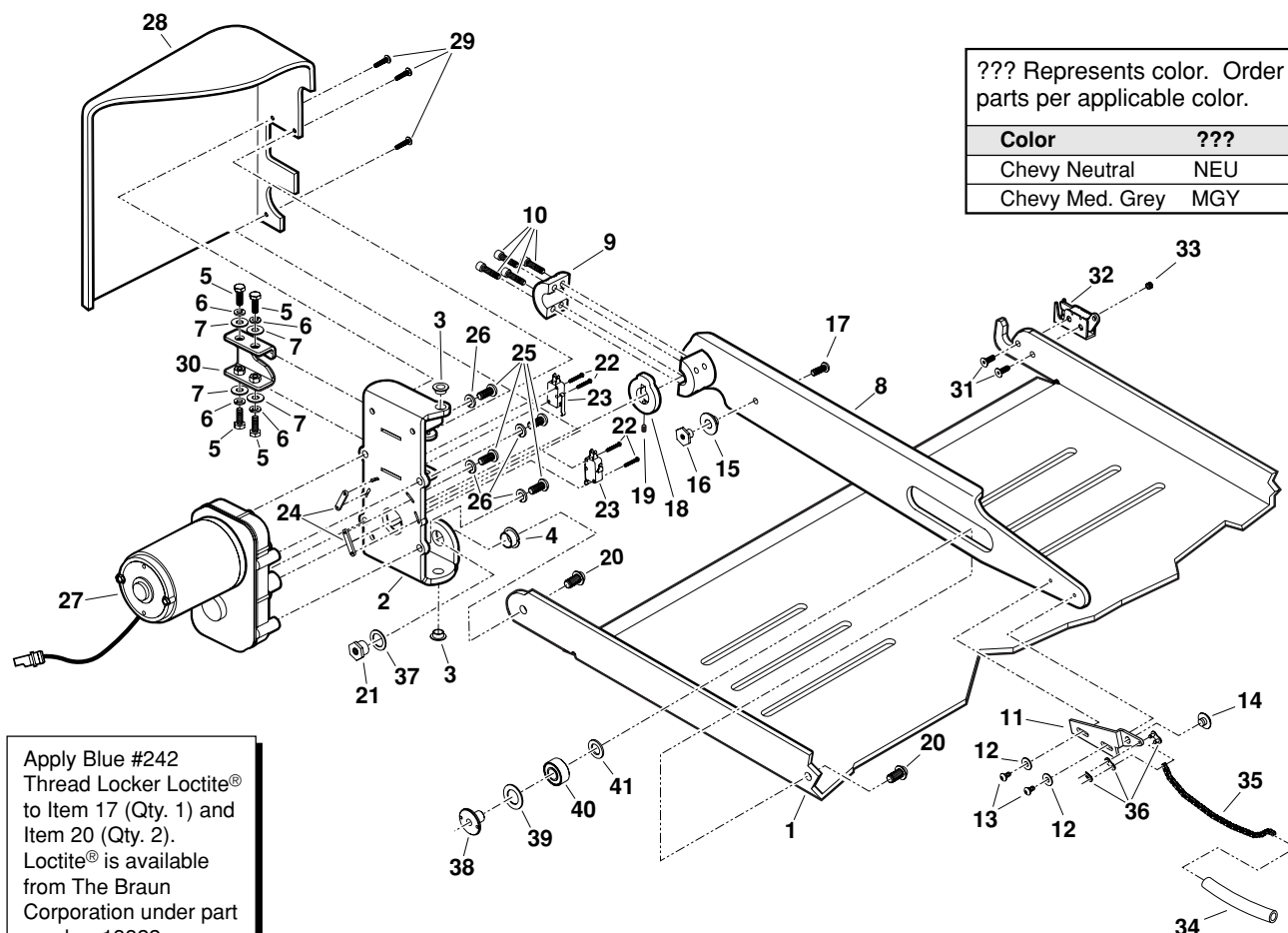
Color	???
Chevy Neutral	NEU
Chevy Med. Grey	MGY



Item	Qty.	Description	Part No.	Item	Qty.	Description	Part No.
1	1	Bracket, Assembly, Pivot, Venture, EV Ramp	E41517WBK	8	2	Bearing, Plastic, Flange, 3/8" I.D. X 1/4"	24028
2	1	Bracket, Ramp Adjuster	52532-05BK	9	1	Weldment, Threshold Plate, Pass, SS, Venture	E40050PW-03
3	1	Screw, 5/16-24 x 1", Set-With 5/32" Hex	25694	10	1	Weldment, Support	Per Ramp
4	2	Bolt, Carriage, 5/16-18 x 1"	15572	A		Support Weldment, Gear Motor, Auto	E40233W-03
5	2	Washer, 1/4" Flat, Auto Black	10062	B		Weldment, Main Ramp Housing, Manual	E41515WBK-03
6	2	Washer, 5/16" Lock, Auto Black	10068	11	2	Clip, Hairpin 5/16" Dia. Shaft	84382
7	2	Nut, 5/16-18 Hex, Auto Black	10058				

Repair Parts

Series 03 Power Ramp Motor Assembly - Swing

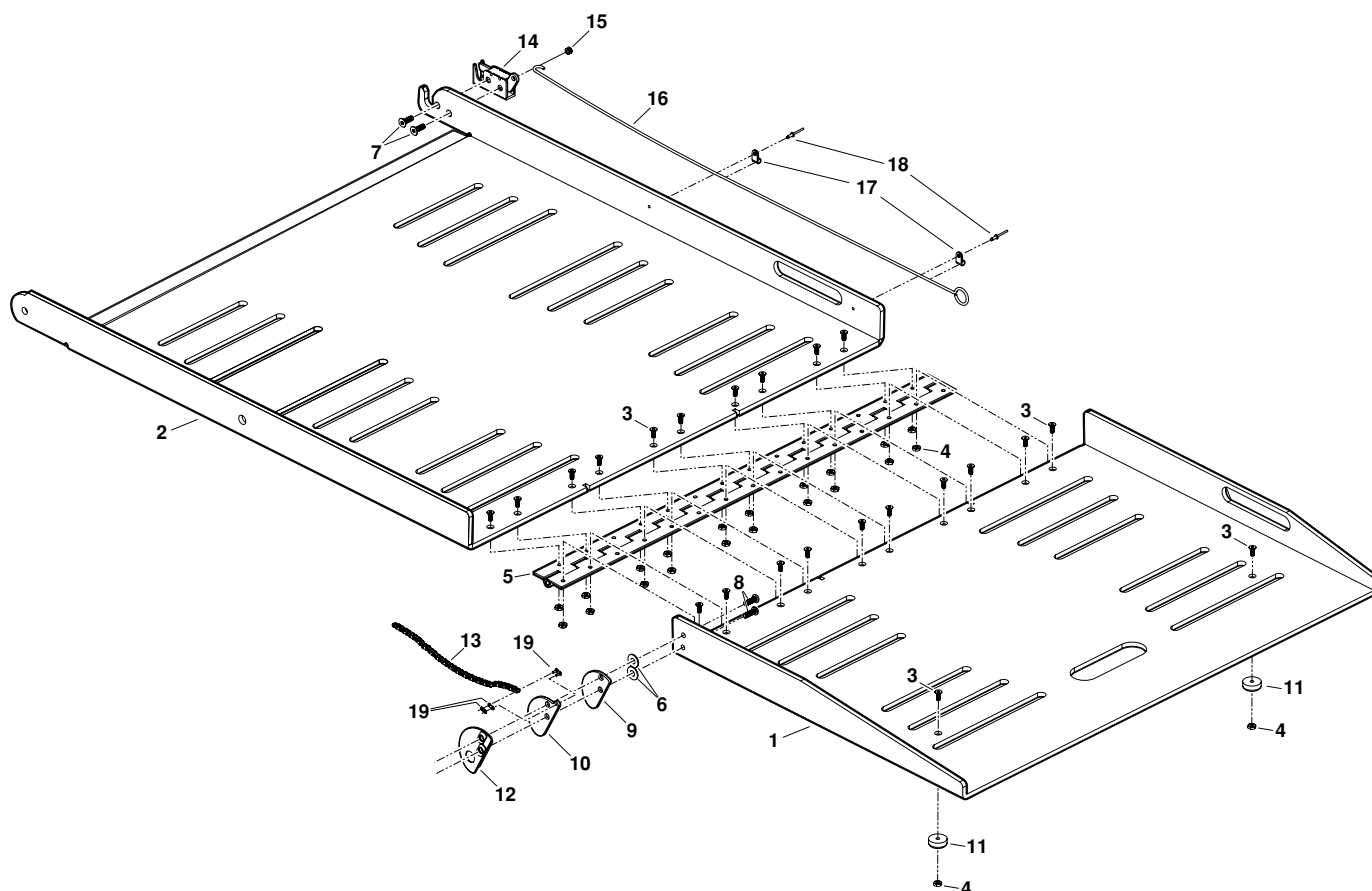


Item	Qty.	Description	Part No.
1	1	Ramp, Base, 30", 2003 GM	E41502???-03
2	1	Support Wmt., Gear Motor, 29" & 30" Ramp	E40233WBK-03
3	2	Bearing, Plastic, Flange, 3/8" I.D. x 1/4"	24028
4	1	Bearing, Flange, 5/8" x 1/4", 10FDU04	28435
5	4	Bolt, 1/4-20 x 3/4" GR5-Hex/Auto Black	10970
6	4	Washer, 1/4" Lock, Auto Black	10067
7	4	Washer, 1/4" Flat, Auto Black	10062
8	1	Arm, Drives Ramp, Gear Motor	E40268WBK-03
9	1	Collar, Split, 3/4" Shaft/Ramp Motor	52565-2905BK
10	4	Screw, 1/4-20 x 1" Socket Head Cap	24221
11	1	Bracket, Cable Tensioner, Outer	52568-2905BK
12	2	Washer, #10 Flat	11541
13	2	Screw, #10-32 x 1/2" Button Head, Hex SK	17193
14	1	Button, Guide .328" Dia., UHMW, Black	52576-2905
15	1	Pin, Ramp Support, 96SC 29" Ramp	51815-2905
16	1	Latch Bolt, Support, 29" Ramp	51541-2905
17	1	Bolt, 1/4-20 x 3/4", BHCS NYLK, BKZN	25371
18	1	Cam, Microswitch Adjust, EV	52573-2905
19	1	Screw, #10-32 x 5/16" Set	11562
20	2	Bolt, 3/8-16 x 3/4" FLBHSCS, GD8	25171
21	1	Pivot Pin, Bushing, EV Ramp, 2905	52571-2905

Item	Qty.	Description	Part No.
22	4	Screw, #4-40 x 3/4" RD. HD.	11483
23	2	Microswitch, Floor Level, Cupped	23184
24	2	Plate, Tapped #4-40 Microswitch	24998
25	4	Bolt, 5/16-18 x 3/4", BHSC, Black	24440
26	4	Washer, 5/16" Lock	10068
27	1	Motor, Ramp Assembly, Klauber	51654AK2907
28	1	Panel, Plastic, Venture, Ramp Housing	E42026???AUTO
29	3	Bolt, 1/4-20 x 1/2", Button Head Soc., Auto Black	15733
30	1	Bkt., Ramp Latch Catch, Adjustable, Weldment	E41510WBK
31	2	Screw, 1/4-20 x 3/4", Flat, Socket, Cap Head	18708
32	1	Latch, Ramp, Swing Out	51652
33	1	Standard SBR Rubber Grommet	29426
34	1	Hose, 7/16" x 1/16" Wall, Clear Vinyl	26102R005
35	1	Chain, #25, Roller, Plated	25155R009.25
36	1	Link, Chain, #25, Plated	25156
37	1	Washer, .63" x .8" x .06", Nylon	83584
38	1	Retainer, Bearing	21451-03
39	1	Washer, UHMW 1.500" O.D. x .76" I.D. x 0.062"	29680
40	1	Bearing, 1/2" I.D. x 1 1/8" O.D., Ball	21371
41	1	Washer, .519" I.D. x .876" O.D. x .074"	12621

Repair Parts

Series 03 Power Ramp Assembly - Swing
Series 03 Manual Ramp Assembly - Swing
Series 04 Manual Ramp Assembly - Swing



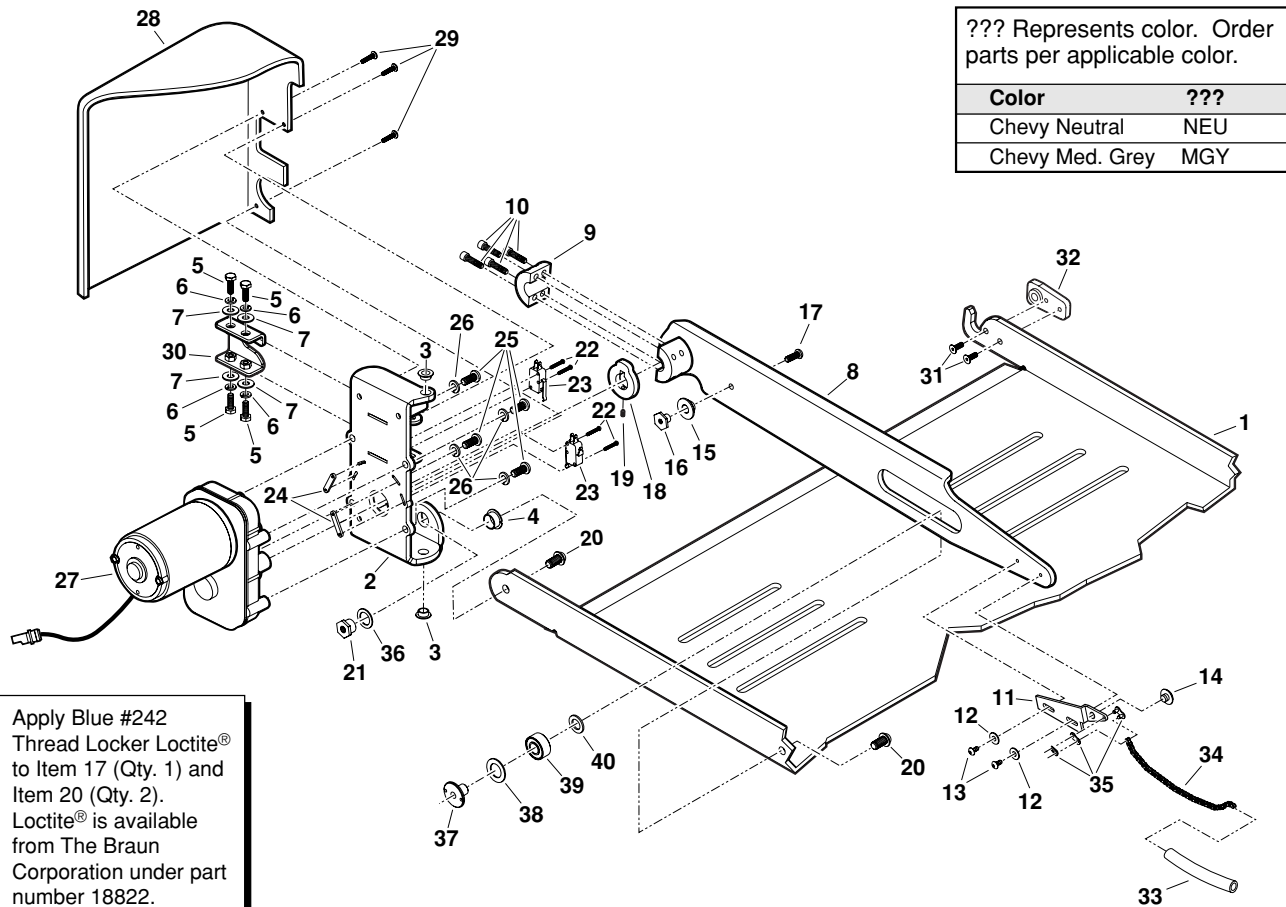
??? Represents color. Order parts per applicable color.

Color	???
Chevy Neutral	NEU
Chevy Med. Grey	MGY

Item	Qty.	Description	Part No.	Item	Qty.	Description	Part No.
	1	Ramp Assy, Base & Extension, 30" Swing-GM	E42519???A3003	10	1	Cam, Fold, Ramp Ext., Center	52569-2905
1	1	Ramp, Extension, 30", 2003 GM	E41503???-03	11	2	Bumper, Rubber, Recess, 31/32" OD	10950
2	1	Ramp, Base, 30", 2003 GM	E41502???-03	12	1	Cam, Fold, Wmt., Ramp Ext. Outside	52570W2905
3	22	Screw, #10-32 x 1/2", FL HD-HX SKT, BK, NYLK	17192P	13	1	Chain, #25, Roller, Plated	25155R009.25
4	22	Nut, #10-32 with Lockwasher, Zinc	18349	14	1	Latch, Ramp, 29" Swing Out	51652
5	1	Hinge, Stainless Steel, 2" x 1/4" x 29"	18619W029	15	1	Standard SBR Rubber Grommet	29426
6	2	Washer, 1/4" Flat	10062	16	1	Latch, Pull Wire, Auto Swing Ramp, Venture	E42131-03
7	2	Screw, 1/4-20 x 3/4", FL HD SOC CAP	18708	17	2	Clamp, Nylon Loop Strap 3/16"	28326
8	2	Bolt, 1/4-20 x 3/4" BHCS, BKZN, NYLK	25371	18	2	Rivet, Pop, SD43BS, 1/8"-13/19", Auto BK	12954
9	1	Cam, Fold, Ramp Ext., Inside	52567-2905NC	19	1	Link, Chain, #25, Plated	25156

Repair Parts

Series 03 Power Ramp Motor Assembly - Stationary

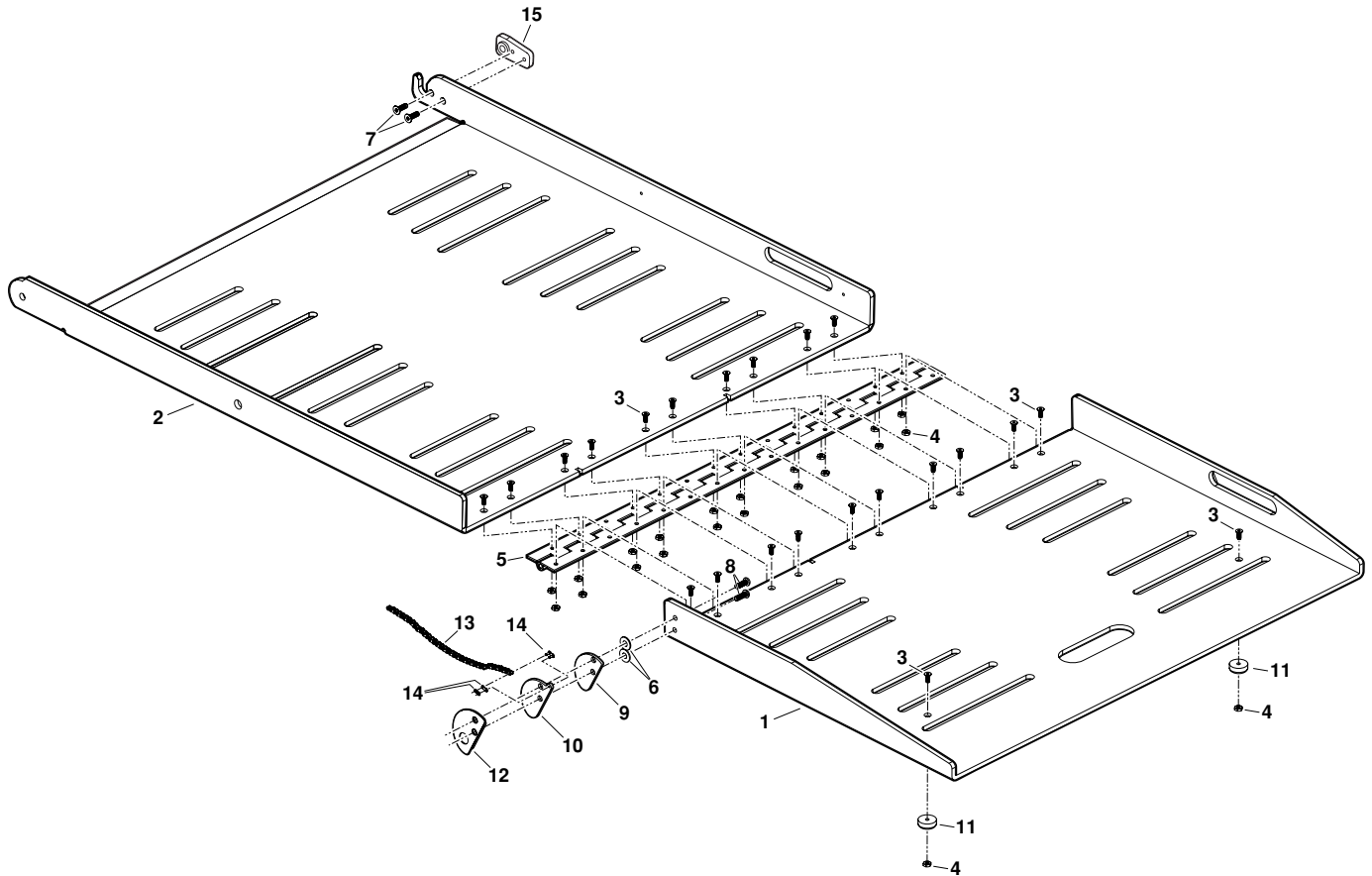


Item	Qty.	Description	Part No.
1	1	Ramp, Base, 30", 2003 GM	E41502???-03
2	1	Support Wmt., Gear Motor, 29" & 30" Ramp	E40233WBK-03
3	2	Bearing, Plastic, Flange, 3/8" I.D. x 1/4"	24028
4	1	Bearing, Flange, 5/8" x 1/4", 10FDU04	28435
5	4	Bolt, 1/4-20 x 3/4" GR5-Hex/Auto Black	10970
6	4	Washer, 1/4" Lock, Auto Black	10067
7	4	Washer, 1/4" Flat, Auto Black	10062
8	1	Arm, Drives Ramp, Gear Motor	E40268WBK-03
9	1	Collar, Split, 3/4" Shaft/Ramp Motor	52565-2905BK
10	4	Screw, 1/4-20 x 1" Socket Head Cap	24221
11	1	Bracket, Cable Tensioner, Outer	52568-2905BK
12	2	Washer, #10 Flat	11541
13	2	Screw, #10-32 x 1/2" Button Head, Hex SK	17193
14	1	Button, Guide .328" Dia., UHMW, Black	52576-2905
15	1	Pin, Ramp Support, 96SC 29" Ramp	51815-2905
16	1	Latch Bolt, Support, 29" Ramp	51541-2905
17	1	Bolt, 1/4-20 x 3/4", BHCS NYLK, BKZN	25371
18	1	Cam, Microswitch Adjust, EV	52573-2905
19	1	Screw, #10-32 x 5/16" Set	11562
20	2	Bolt, 3/8-16 x 3/4" FLBHSCS, GD8	25171

Item	Qty.	Description	Part No.
21	1	Pivot Pin, Bushing, EV Ramp, 2905	52571-2905
22	4	Screw, #4-40 x 3/4" R.D. HD.	11483
23	2	Microswitch, Floor Level, Cupped	23184
24	2	Plate, Tapped #4-40 Microswitch	24998
25	4	Bolt, 5/16-18 x 3/4", BHSC, Black	24440
26	4	Washer, 5/16" Lock	10068
27	1	Motor, Ramp Assembly, Klauber	51654AK2907
28	1	Panel, Plastic, Venture, Ramp Housing	E42026???AUTO
29	3	Bolt, 1/4-20 x 1/2", Button Head Soc., Auto Black	15733
30	1	Bkt., Ramp Latch Catch, Adjustable, Weldment	E41510WBK
31	2	Screw, 1/4-20 x 3/4", Flat, Socket, Cap Head	18708
32	1	Pivot, Bracket Assembly, Non-Swing Ramp	E40271A-03
33	1	Hose, 7/16" x 1/16" Wall, Clear Vinyl	26102R005
34	1	Chain, #25, Roller, Plated	25155R009.25
35	1	Link, Chain, #25, Plated	25156
36	1	Washer, .63" x .8" x .06", Nylon	83584
37	1	Retainer, Bearing	21451-03
38	1	Washer, UHMW, 1.500" O.D. X .76" I.D. X 0.062"	29680
39	1	Bearing, 1/2" I.D. X 1 1/8" O.D., Ball	21371
40	1	Washer, .519" I.D. X .876" O.D. X .074"	12621

Repair Parts

Series 03 Power Ramp Assembly - Stationary
 Series 03 Manual Ramp Assembly - Stationary
 Series 04 Manual Ramp Assembly - Stationary



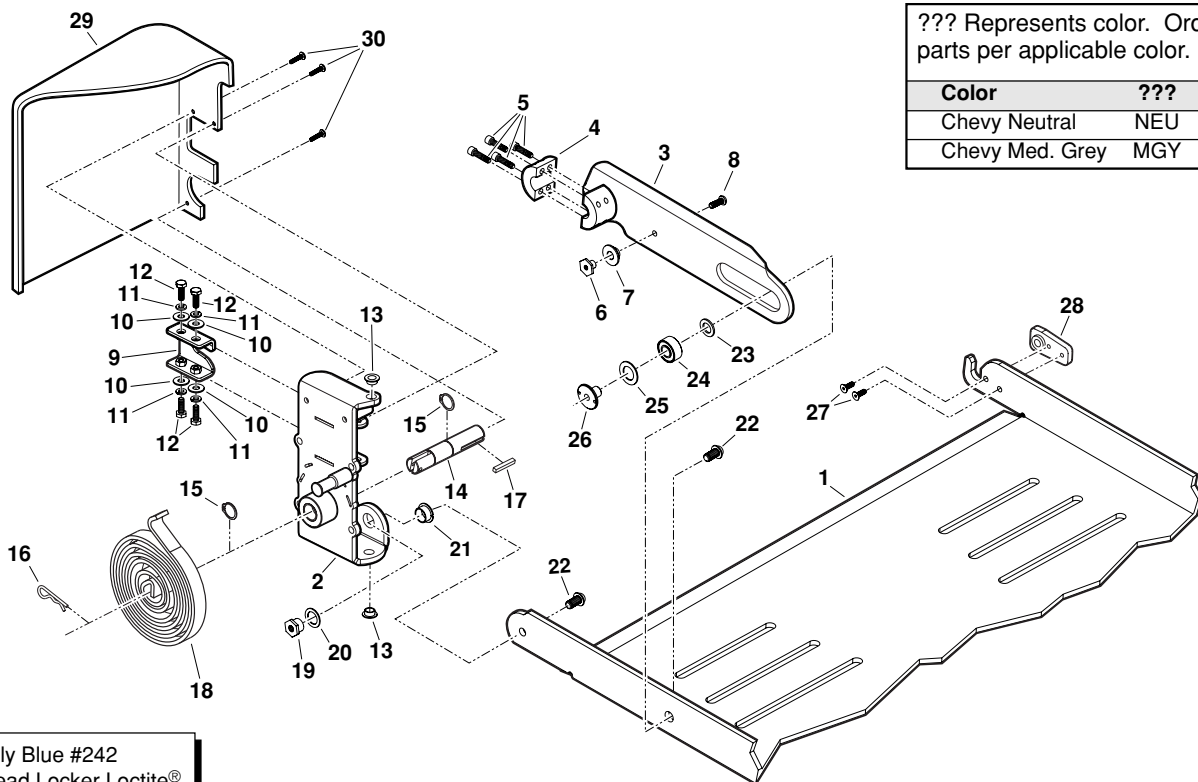
??? Represents color. Order parts per applicable color.

Color	???
Chevy Neutral	NEU
Chevy Med. Grey	MGY

Item	Qty.	Description	Part No.	Item	Qty.	Description	Part No.
	1	Ramp Assy., Base & Ext., 30" Stationary, GM	E42519???A3003-1	8	2	Bolt, 1/4-20 x 3/4" BHCS, BKZN, NYLK	25371
1	1	Ramp, Extension, 30", 2003 GM	E41503???-03	9	1	Cam, Fold, Ramp Ext., Inside	52567-2905NC
2	1	Ramp, Base, 30", 2003 GM	E41502???-03	10	1	Cam, Fold, Ramp Ext., Center	52569-2905
3	22	Screw, #10-32 x 1/2", FL HD-HX SKT, BK, NYLK	17192P	11	2	Bumper, Rubber, Recess, 31/32" OD	10950
4	22	Nut, #10-32 with Lockwasher, Zinc	18349	12	1	Cam, Fold, Wmt., Ramp Ext. Outside	52570W2905
5	1	Hinge, Stainless Steel, 2" x 1/4" x 29"	18619W029	13	1	Chain, #25, Roller, Plated	25155R009.25
6	2	Washer, 1/4" Flat	10062	14	1	Link, Chain, #25, Plated	25156
7	2	Screw, 1/4-20 x 3/4", FL HD SOC CAP	18708	15	1	Pivot, Bracket Assembly, Non-Swing Ramp	E40271A-03

Repair Parts

Series 03 Manual Ramp Spring and Arm Assembly - Stationary

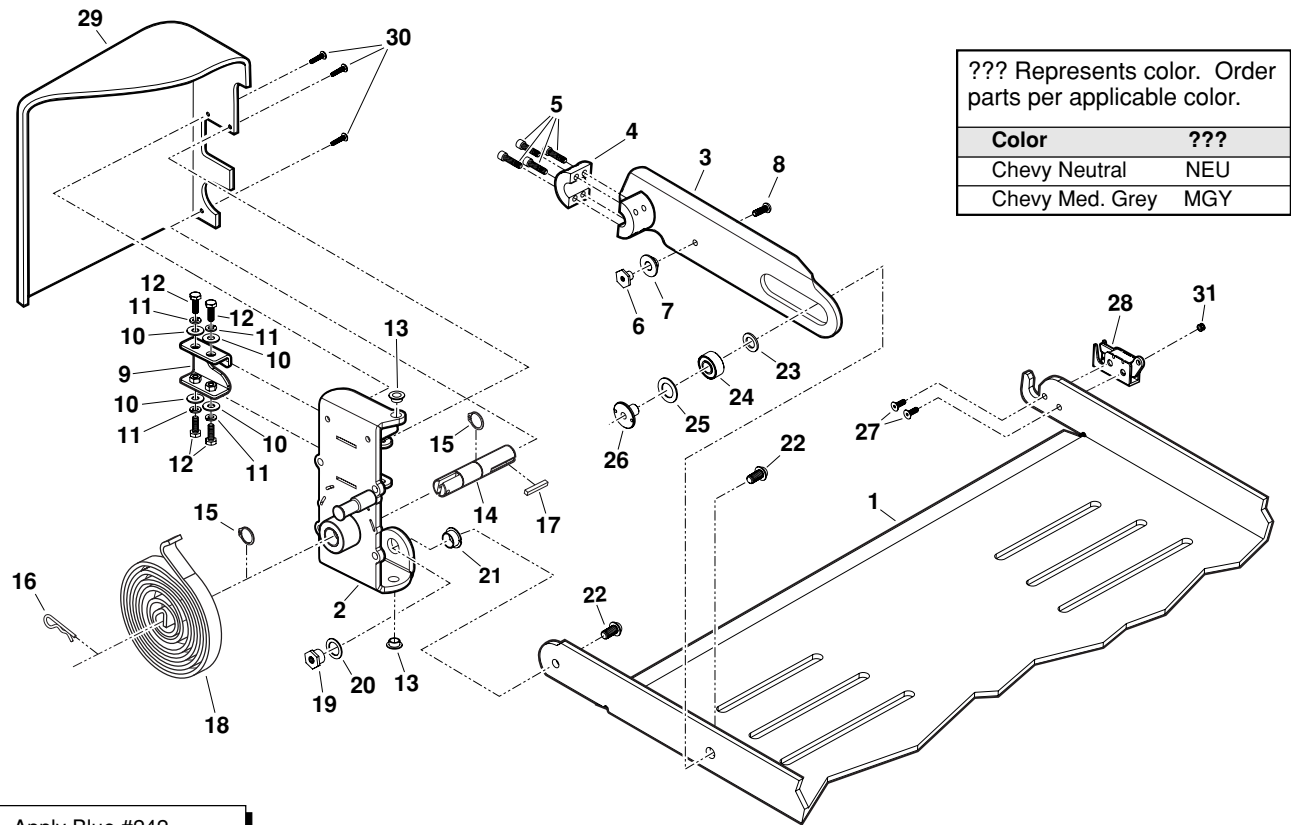


Item	Qty.	Description	Part No.
1	1	Ramp, Base, 30", 2003 GM	E41502???-03
2	1	Weldment, Main Ramp Housing, Manual	E41515WBK-03
3	1	Arm, Ramp Drive, Manual, Weldment	E41505WBK-03
4	1	Collar, Split, 3/4" Shaft, Ramp Motor	52565-2905BK
5	4	Screw, 1/4-20 x 1", Socket Head Cap	24221
6	1	Latch, Bolt Support, 29" Ramp	51541-2905
7	1	Pin, Ramp Support, 96SC, 29" Ramp	51815-2905
8	1	Bolt, 1/4-20 x 3/4", BHCS NYLK, BKZN	25371
9	1	Bracket, Ramp Latch Catch, Adjustable, Weldment	E41510WBK
10	4	Washer, 1/4" Flat, Auto, BK	10062
11	4	Washer, 1/4" Lock, Auto, BK	10067
12	4	Bolt, 1/4-20 x 3/4" GR5, Hex, Auto, BK	10970
13	2	Bearing, Plastic, Flange, 3/8" I.D. x 1/4"	24028
14	1	Shaft, 30" Manual Ramp, Chevy	E41507
15	2	Ring, 3/4" Ext. Snap, Auto, BK	18657

Item	Qty.	Description	Part No.
16	1	Cotter, Hairpin, 1.938" Long x .5" Shaft	18832
17	1	Key, 3/16" x 3/16" x 1 1/4"	11002
18	1	Spring, Power, Clock, Manual Ramp	28258
19	1	Pivot Pin, Bushing, EV Ramp, 2905	52571-2905
20	1	Washer, .63" x .8" x .06" Nylon	83584
21	1	Bearing, Flange, 5/8" x 1/4" 10FD04	28435
22	2	Bolt, 3/8-16 x 3/4" FLBHSCS, GD8	25171
23	1	Washer, .519" I.D. x .876" O.D. x .074"	12621
24	1	Bearing, 1/2" I.D. x 1 1/8" O.D., Ball	21371
25	1	Washer, UHMW 1.500" O.D. x .765" I.D. x .062"	29680
26	1	Retainer, Bearing	21451-03
27	2	Screw, 1/4-20 x 3/4", FL HD SOC CAP	18708
28	1	Pivot, Bracket Assembly, Non-Swing Ramp	E40271A-03
29	1	Panel, Plastic, Venture, Ramp Housing	E42026???AUTO
30	3	Bolt, 1/4-20 x 1/2", Button Head Soc., Auto Black	15733

Repair Parts

Series 03 Manual Ramp Spring and Arm Assembly - Swing



??? Represents color. Order parts per applicable color.

Color	???
Chevy Neutral	NEU
Chevy Med. Grey	MGY

Apply Blue #242 Thread Locker Loctite® to Item 8 (Qty. 1) and Item 22 (Qty. 2). Loctite® is available from The Braun Corporation under part number 18822.

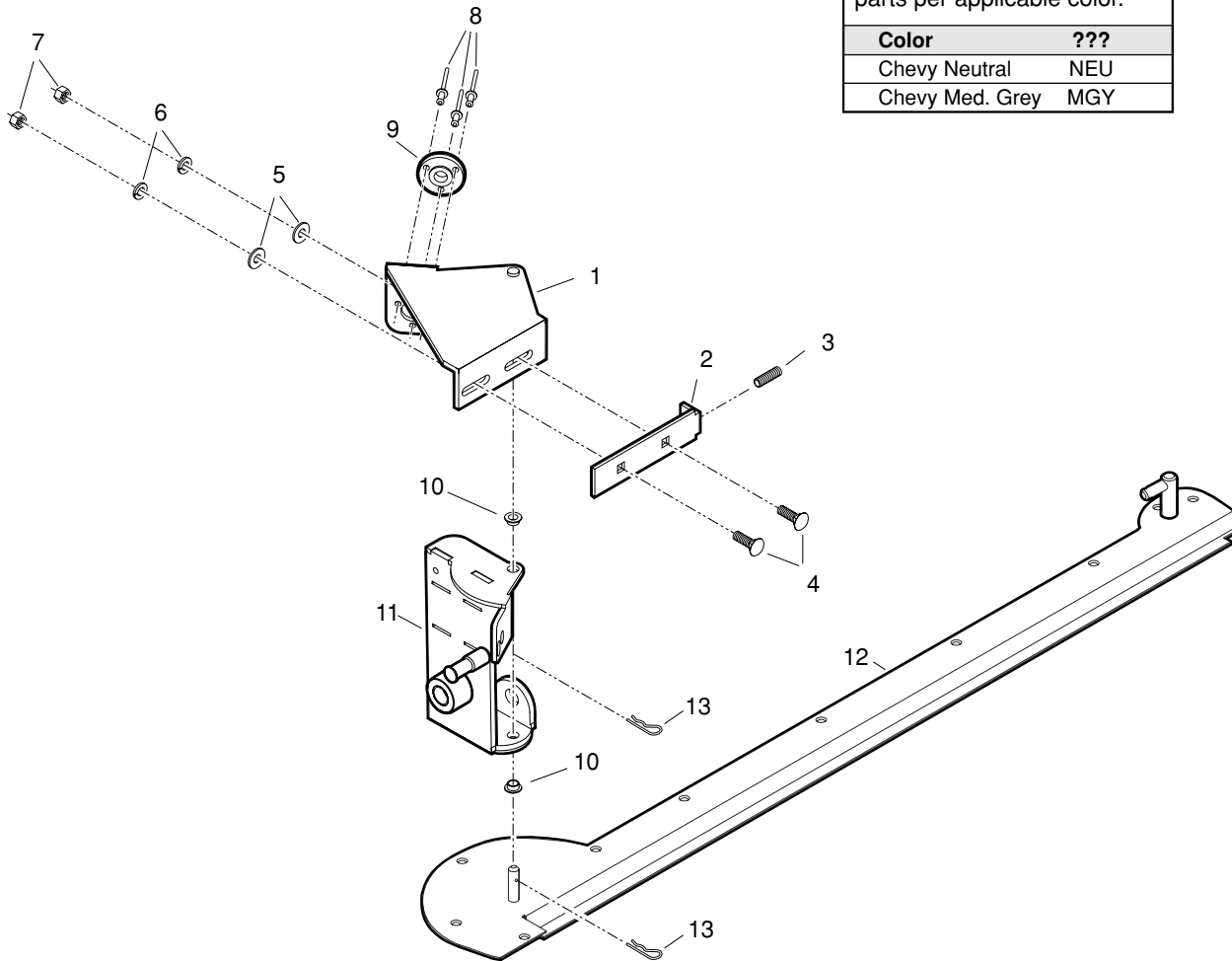
Item	Qty.	Description	Part No.	Item	Qty.	Description	Part No.
1	1	Ramp Assy., Base and Ext., 30" Manual GM	E41519???A300-1	17	1	Key, 3/16" x 1 1/4"	11002
2	1	Weldment, Main Ramp Housing, Manual	E41515WBK-03	18	1	Spring, Power, Clock, Manual Ramp	28258
3	1	Arm, Ramp Drive, Manual, Weldment	E41505WBK-03	19	1	Pivot Pin, Bushing, EV Ramp, 2905	52571-2905
4	1	Collar, Split, 3/4" Shaft, Ramp Motor	52565-2905BK	20	1	Washer, .63" x .8" x .06" Nylon	83584
5	4	Screw, 1/4-20 x 1", Socket Head Cap	24221	21	1	Bearing, Flange, 5/8" x 1/4" 10FD04	28435
6	1	Latch, Bolt Support, 29" Ramp	51541-2905	22	2	Bolt, 3/8-16 x 3/4" FLBHSCS, GD8	25171
7	1	Pin, Ramp Support, 96SC, 29" Ramp	51815-2905	23	1	Washer, .519" I.D. x .876" O.D. x .074"	12621
8	1	Bolt, 1/4-20 x 3/4", BHCS NYLK, BKZN	25371	24	1	Bearing, 1/2" I.D. x 1 1/8" O.D., Ball	21371
9	1	Bracket, Ramp Latch Catch, Adjustable, Weldment	E41510W	25	1	Washer, UHMW 1.500" O.D. x .765" I.D. x .062"	29680
10	4	Washer, 1/4" Flat, Auto, BK	10062	26	1	Retainer, Bearing	21451-03
11	4	Washer, 1/4" Lock, Auto, BK	10067	27	2	Screw, 1/4-20 x 3/4", FL HD SOC CAP	18708
12	4	Bolt, 1/4-20 x 3/4" GR5, Hex, Auto, BK	10970	28	1	Latch, Ramp, Swingout	51652
13	2	Bearing, Plastic, Flange, 3/8" I.D. x 1/4"	24028	29	1	Panel, Plastic, Venture, Ramp Housing	E42026???AUTO
14	1	Shaft, 30" Manual Ramp, Chevy	E41507	30	3	Bolt, 1/4-20 x 1/2", Button Head Soc., Auto Black	15733
15	2	Ring, 3/4" Ext. Snap, Auto, BK	18657	31	1	Standard SBR Rubber Grommet	29426
16	1	Cotter, Hairpin, 1.938" Long x .5" Shaft	18832				

Repair Parts

Series 04 Wall-Mounted Pivot and Threshold Assembly

??? Represents color. Order parts per applicable color.

Color	???
Chevy Neutral	NEU
Chevy Med. Grey	MGY

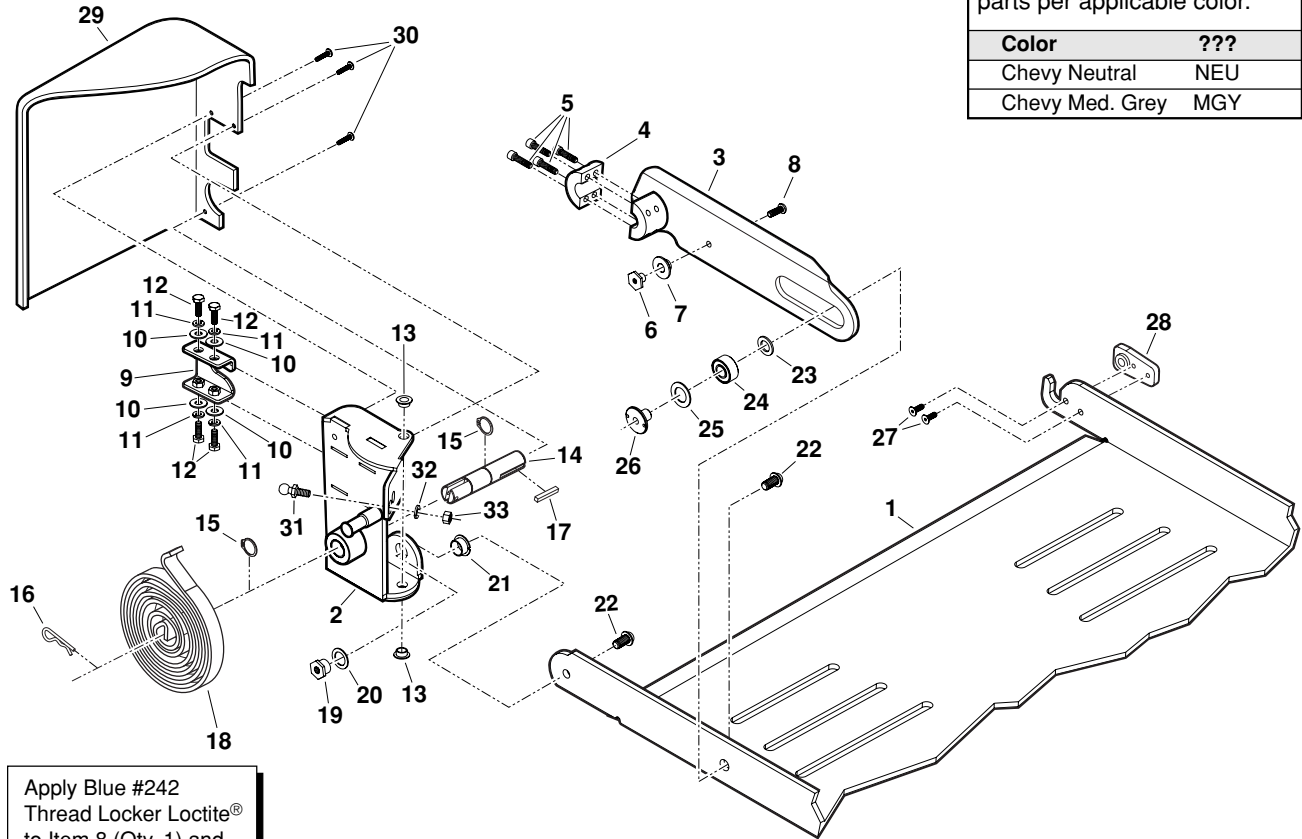


Item	Qty.	Description	Part No.
1	1	Weldment, Bracket, Upper, Pivot, Ramp	E41517WBK-04
2	1	Bracket, Ramp Adjuster	52532-05BK
3	1	Screw, 5/16-24 x 1", Set-With 5/32" Hex	25694
4	2	Bolt, Carriage, 5/16-18 x 1"	15572
5	2	Washer, 1/4" Flat, Auto Black	10062
6	2	Washer, 5/16" Lock, Auto Black	10068
7	2	Nut, 5/16-18 Hex, Auto Black	10058

Item	Qty.	Description	Part No.
8	3	Rivet, Pop, SD66BS, 3/16 - .25", .38", Auto Black	14993
9	1	Socket, UHMW, Detent, Ramp, Open	E40248
10	2	Bearing, Plastic, Flange, 3/8" I.D. x 1/4"	24028
11	1	Weldment, Main Ramp Housing, 30" Manual	E41515WBK-04
12	1	Weldment, Threshold Plate, SS, Venture	E40050PW-03
13	2	Clip, Hairpin 5/16" Dia. Shaft	84382

Repair Parts

Series 04 Manual Ramp Spring and Arm Assembly - Stationary



??? Represents color. Order parts per applicable color.

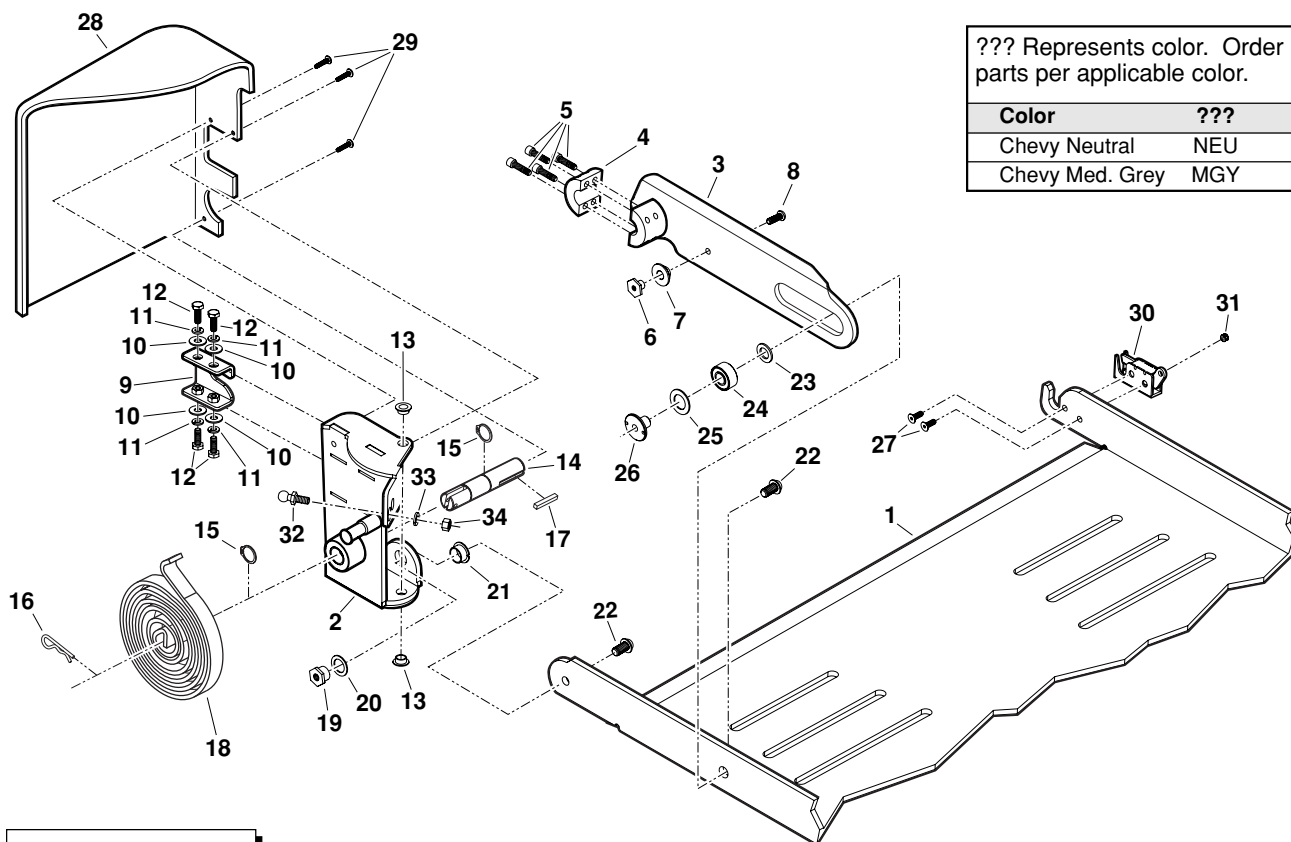
Color	???
Chevy Neutral	NEU
Chevy Med. Grey	MGY

Item	Qty.	Description	Part No.
1	1	Ramp, Base, 30", 2003 GM	E41503???-03
2	1	Weldment, Main Ramp Housing, Manual	E41515WBK-04
3	1	Arm, Ramp Drive, Manual, Weldment	E41505WBK-03
4	1	Collar, Split, 3/4" Shaft, Ramp Motor	52565-2905BK
5	4	Screw, 1/4-20 x 1", Socket Head Cap	24221
6	1	Latch, Bolt Support, 29" Ramp	51541-2905
7	1	Pin, Ramp Support, 96SC, 29" Ramp	51815-2905
8	1	Bolt, 1/4-20 x 3/4", BHCS NYLK, BKZN	25371
9	1	Bracket, Ramp Latch Catch, Adjustable, Weldment	E41510WBK
10	4	Washer, 1/4" Flat, Auto, BK	10062
11	4	Washer, 1/4" Lock, Auto, BK	10067
12	4	Bolt, 1/4-20 x 3/4" GR5, Hex, Auto, BK	10970
13	2	Bearing, Plastic, Flange, 3/8" I.D. x 1/4"	24028
14	1	Shaft, 30" Manual Ramp, Chevy	E41507
15	2	Ring, 3/4" Ext. Snap, Auto, BK	18657
16	1	Cotter, Hairpin, 1.938" Long x .5" Shaft	18832
17	1	Key, 3/16" x 3/16" x 1 1/4"	11002

Item	Qty.	Description	Part No.
18	1	Spring, Power, Clock, Manual Ramp	28258
19	1	Pivot Pin, Bushing, EV Ramp, 2905	52571-2905
20	1	Washer, .63" x .8" x .06" Nylon	83584
21	1	Bearing, Flange, 5/8" x 1/4" 10FD04	28435
22	2	Bolt, 3/8-16 x 3/4" FLBHSCS, GD8	25171
23	1	Washer, .519" I.D. x .876" O.D. x .074"	12621
24	1	Bearing, 1/2" I.D. x 1 1/8" O.D., Ball	21371
25	1	Washer, UHMW 1.500" O.D. x .765" I.D. x .062"	29680
26	1	Retainer, Bearing	21451-03
27	2	Screw, 1/4-20 x 3/4", FL HD SOC CAP	18708
28	1	Pivot, Bracket Assembly, Non-Swing Ramp	E40271A-03
29	1	Panel, Plastic, Venture, Ramp Housing	E42026???AUTO
30	3	Bolt, 1/4-20 x 1/2", Button Head Soc., Auto Black	15733
31	1	Ball Stud, 13MM, 5/16-18 Male (Gas Spring)	12611
32	1	Washer, 5/16" Lock, Auto Black	10068
33	1	Nut, 5/16-18, Hex, Auto Black	10058

Repair Parts

Series 04 Manual Ramp Spring and Arm Assembly - Swing

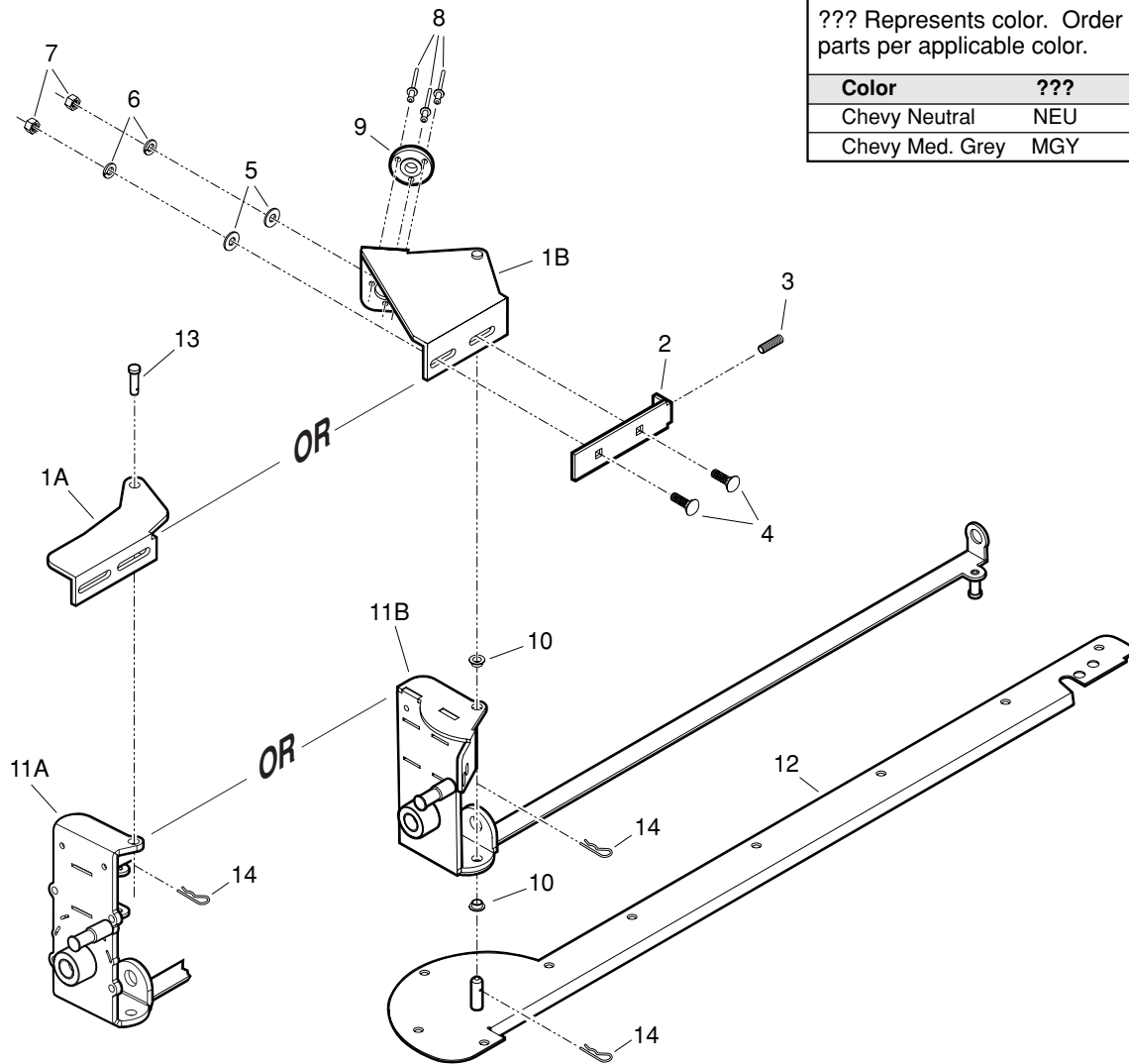


Item	Qty.	Description	Part No.
1	1	Ramp, Base, 30", 2003 GM	E41503???-03
2	1	Weldment, Main Ramp Housing, Manual	E41515WBK-04
3	1	Arm, Ramp Drive, Manual, Weldment	E41505WBK-03
4	1	Collar, Split, 3/4" Shaft, Ramp Motor	52565-2905BK
5	4	Screw, 1/4-20 x 1", Socket Head Cap	24221
6	1	Latch, Bolt Support, 29" Ramp	51541-2905
7	1	Pin, Ramp Support, 96SC, 29" Ramp	51815-2905
8	1	Bolt, 1/4-20 x 3/4", BHCS NYLK, BKZN	25371
9	1	Bracket, Ramp Latch Catch, Adjustable, Weldment	E41510WBK
10	4	Washer, 1/4" Flat, Auto, BK	10062
11	4	Washer, 1/4" Lock, Auto, BK	10067
12	4	Bolt, 1/4-20 x 3/4" GR5, Hex, Auto, BK	10970
13	2	Bearing, Plastic, Flange, 3/8" I.D. x 1/4"	24028
14	1	Shaft, 30" Manual Ramp, Chevy	E41507
15	2	Ring, 3/4" Ext. Snap, Auto, BK	18657
16	1	Cotter, Hairpin, 1.938" Long x .5" Shaft	18832
17	1	Key, 3/16" x 3/16" x 1 1/4"	11002

Item	Qty.	Description	Part No.
18	1	Spring, Power, Clock, Manual Ramp	28258
19	1	Pivot Pin, Bushing, EV Ramp, 2905	52571-2905
20	1	Washer, .63" x .8" x .06" Nylon	83584
21	1	Bearing, Flange, 5/8" x 1/4" 10F DU04	28435
22	2	Bolt, 3/8-16 x 3/4" FLBHSCS, GD8	25171
23	1	Washer, .519" I.D. x .876" O.D. x .074"	12621
24	1	Bearing, 1/2" I.D. x 1 1/8" O.D., Ball	21371
25	1	Washer, UHMW 1.500" O.D. x .765" I.D. x .062"	29680
26	1	Retainer, Bearing	21451-03
27	2	Screw, 1/4-20 x 3/4", FL HD SOC CAP	18708
28	1	Panel, Plastic, Venture, Ramp Housing	E42026???AUTO
29	3	Bolt, 1/4-20 x 1/2", Button Head Soc., Auto Black	15733
30	1	Latch, Ramp, Swing Out	51652
31	1	Standard SBR Rubber Grommet	29426
32	1	Ball Stud, 13MM, 5/16-18 Male (Gas Spring)	12611
33	1	Washer, 5/16" Lock, Auto Black	10068
34	1	Nut, 5/16-18, Hex, Auto Black	10058

Repair Parts

Series 01 Wall-Mounted Pivot and Threshold Assembly



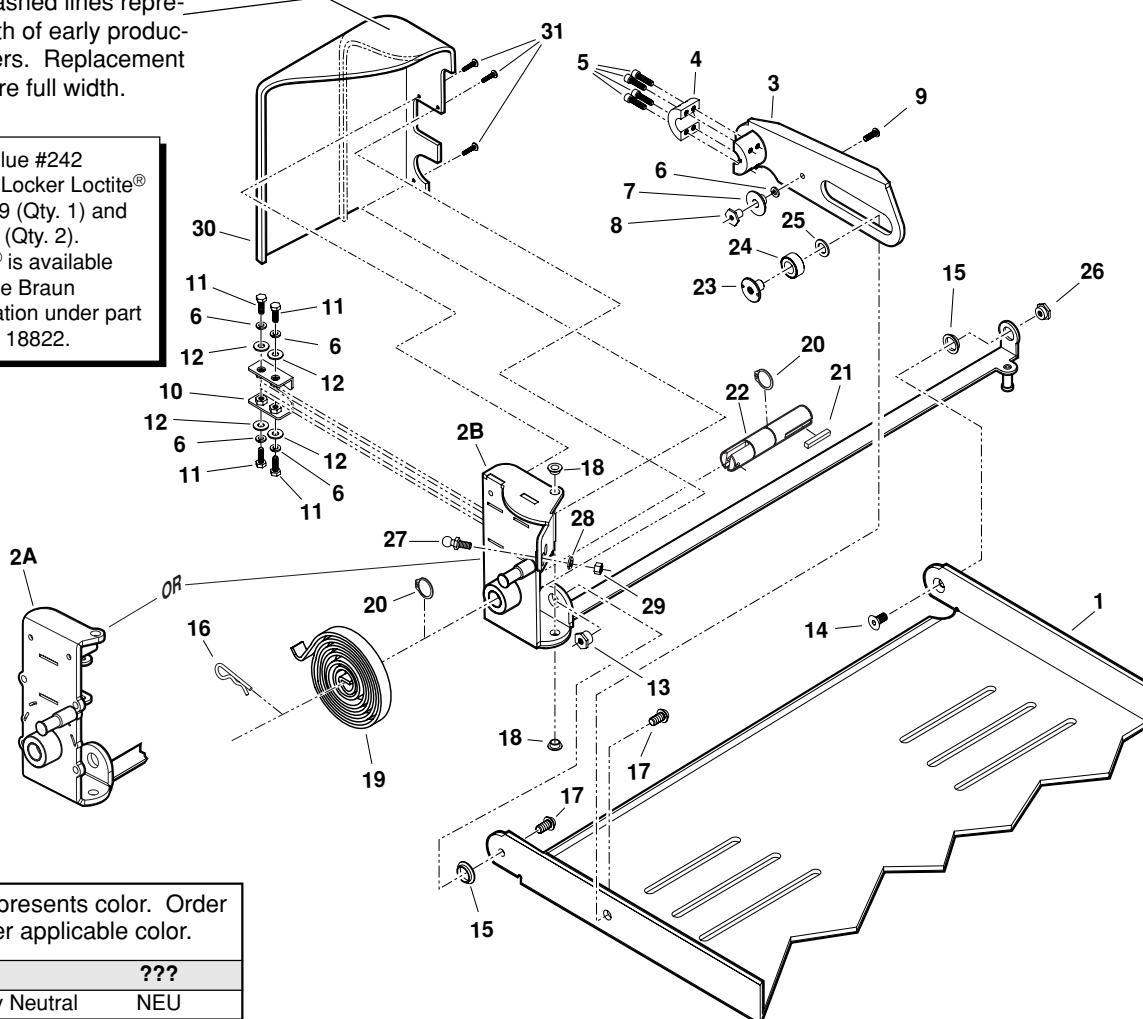
Item	Qty.	Description	Part No.	Item	Qty.	Description	Part No.
1A	1	Weldment, Bracket, Upper, Pivot, Ramp	E41517W???	8	3	Rivet, Pop, SD66BS, 3/16 - .25", .38", Auto Black	14993
1B	1	Weldment, Bracket, Upper, Pivot, Ramp	E41517WBK-02	9	1	Socket, UHMW, Detent, Ramp, Open	E40248
2	1	Bracket, Ramp Adjuster	52532-05BK	10	2	Bearing, Plastic, Flange, 3/8" I.D. x 1/4"	24028
3	1	Screw, 5/16-24 x 1", Set-With 5/32" Hex	25694	11A	1	Weldment, Main Ramp Housing, 30" Manual	E41515W???
4	2	Bolt, Carriage, 5/16-18 x 1"	15572	11B	1	Weldment, Main Ramp Housing, 30" Manual	E41515W???-02
5	2	Washer, 1/4" Flat, Auto Black	10062	12	1	Weldment, Threshold Plate, SS, Venture	E40050PW
6	2	Washer, 5/16" Lock, Auto Black	10068	13	1	Pin, Upper Ramp Pivot, Venture	E41518
7	2	Nut, 5/16-18 Hex, Auto Black	10058	14	2	Clip, Hairpin 5/16" Dia. Shaft	84382

Repair Parts

Series 01 Manual Ramp Assembly - Swing

Note: Dashed lines represent width of early production covers. Replacement covers are full width.

Apply Blue #242 Thread Locker Loctite® to Item 9 (Qty. 1) and Item 17 (Qty. 2). Loctite® is available from The Braun Corporation under part number 18822.



??? Represents color. Order parts per applicable color.

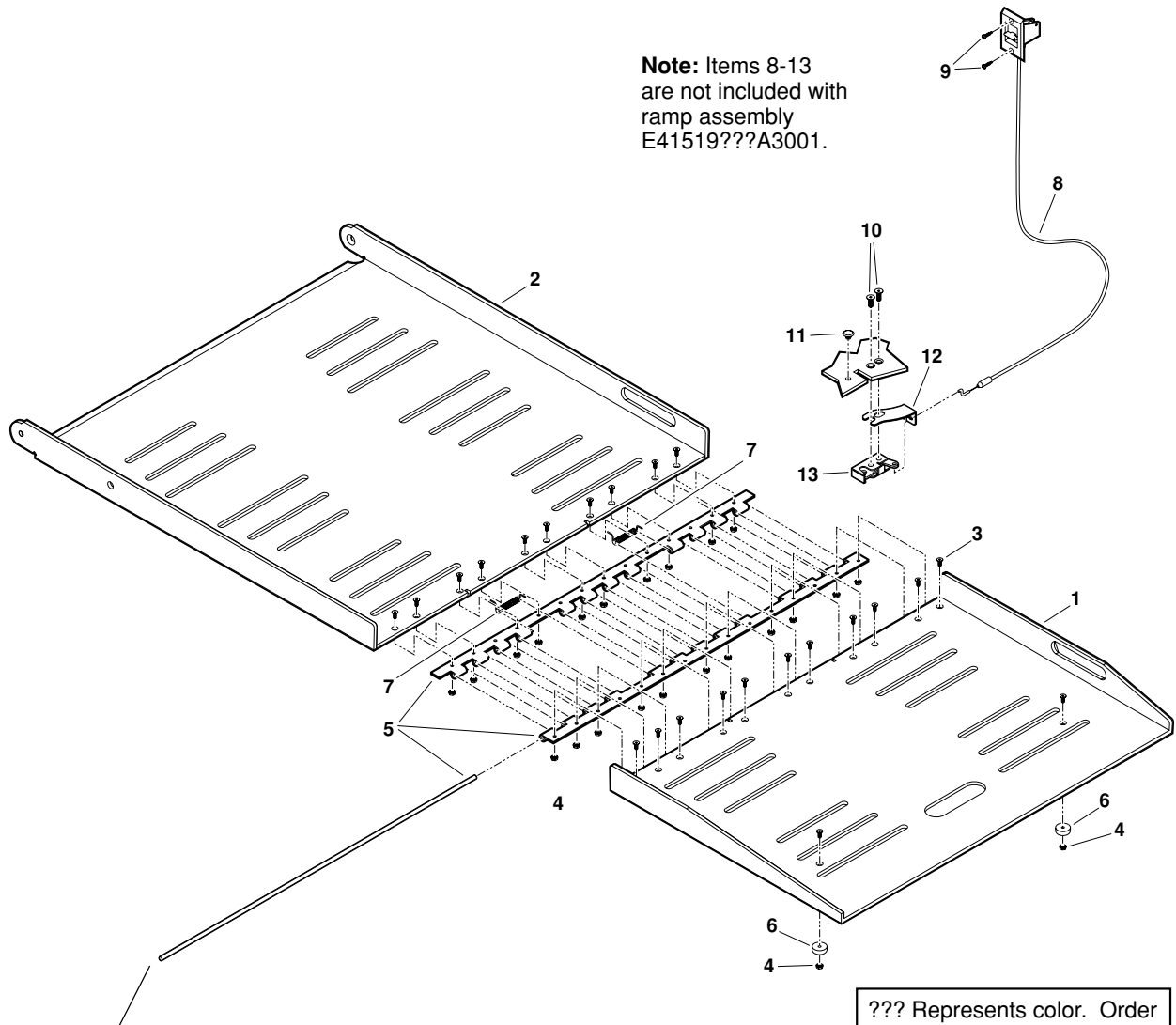
Color	???
Chevy Neutral	NEU
Chevy Med. Grey	MGY

Item	Qty.	Description	Part No.	Item	Qty.	Description	Part No.
1	1	Ramp, Base, 30", 2002 GM	51502???	16	1	Cotter, Hairpin, 1.938" Long x .5" Shaft	18832
2A	1	Weldment, Main Ramp Housing, 30" Manual	E41515W???	17	2	Bolt, 3/8-16 x 3/4" FLBHSCS, GD8, Auto Black	25171
2B	1	Weldment, Main Ramp Housing, 30" Manual	E41515W???-02	18	2	Bearing, Plastic, Flange, 3/8" I.D. x 1/4"	24028
3	1	Arm, Ramp Drive, Manual, Weldment	E41505WBK	19	1	Spring, Power, Clock, Manual Ramp	28258
4	1	Collar, Split, 3/4" Shaft, Ramp Motor	52565-2905BK	20	2	Ring, 3/4", External Snap, Auto Black	18657
5	4	Screw, 1/4-20 x 1", Socket Head Cap	24221	21	1	Key, 3/16" x 3/16" x 1 1/4"	11002
6	5	Washer, 1/4" Lock, Auto Black	10067	22	1	Shaft, 30" Manual Ramp, Chevy	E41507
7	1	Pin, Ramp Support, 96SC Ramp	51815	23	1	Retainer, Bearing	21451
8	1	Latch Bolt, Support, Ramp	51541-96	24	1	Bearing, 1/2" I.D. x 1 1/8" O.D., Ball	21371
9	1	Bolt, 1/4-20 x 3/4" BHCS, NYLK, BKZN	25371	25	1	Washer, .519" I.D. x .876" O.D. x .074"	12621
10	1	Bracket, Ramp Latch Catch, Adjustable, Weldment	E41510WBK	26	1	Pivot Pin, Bushing, Manual EV Ramp	E40179
11	4	Bolt, 1/4-20 x 3/4" GR5, Hex, Auto Black	10970	27	1	Ball Stud, 13MM, 5/16-18 Male (Gas Spring)	12611
12	4	Washer, 1/4" Flat, Auto Black	10062	28	1	Washer, 5/16" Lock, Auto Black	10068
13	1	Pivot Pin, Bushing, EV Ramp, 2905	52571-2905	29	1	Nut, 5/16-18, Hex, Auto Black	10058
14	1	Screw, 3/8-16 x 3/4" FHSCS, Black	26214	30	1	Cover, Motor, Side Shield Weldment	E50146
15	2	Bearing, Flange, 5/8" x 1/4", 10FDU04	28435	31	3	Bolt, 1/4-20 x 1/2", But. Head, Soc.	15733

Repair Parts

Series 01 Manual Ramp Assembly - Swing

Note: Items 8-13 are not included with ramp assembly E41519???A3001.



Note: If servicing ramp requires the disassembly of the hinge, tack weld one end of the hinge after reassembly to ensure that the rod stays in place.

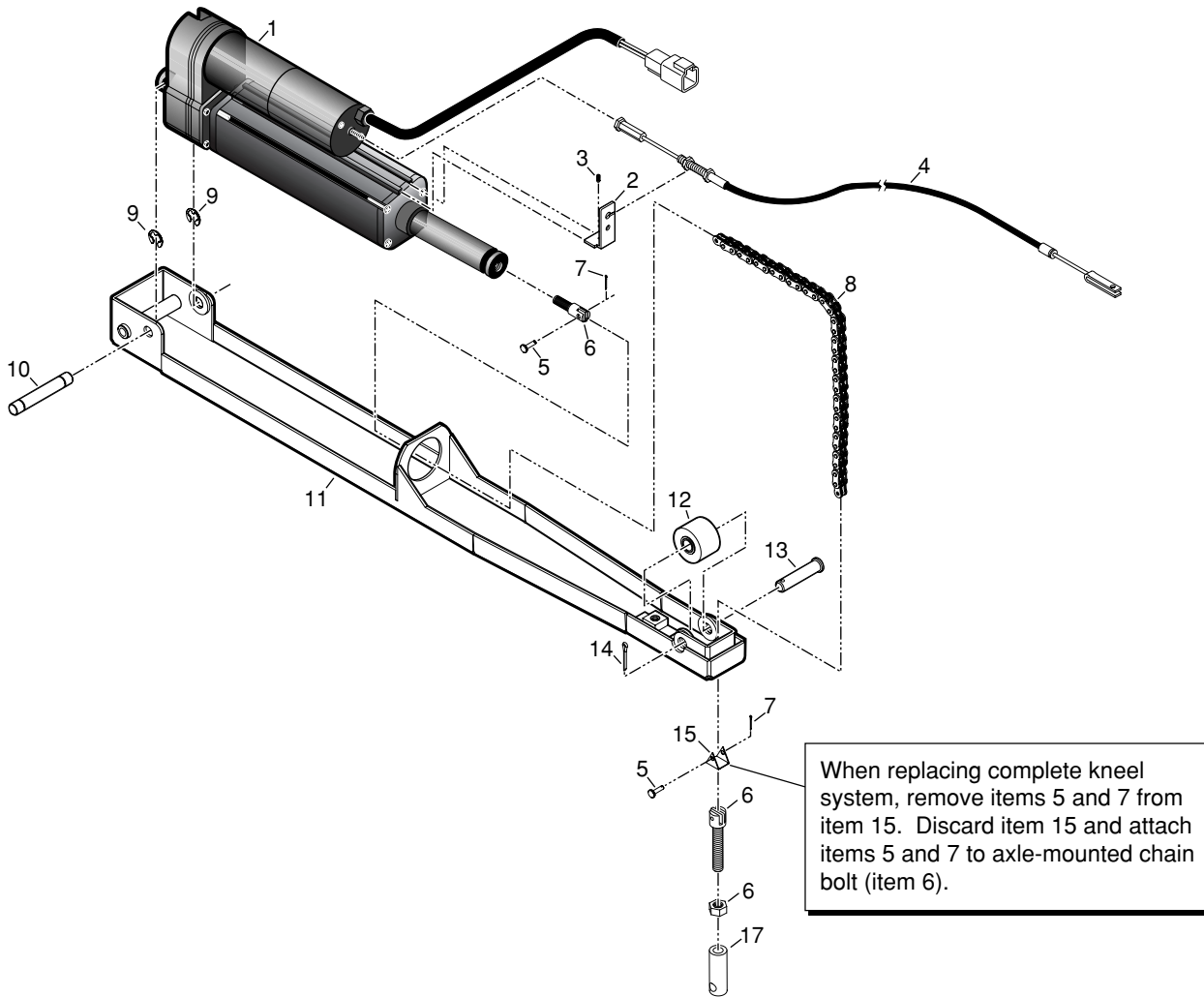
??? Represents color. Order parts per applicable color.

Color	???
Chevy Neutral	NEU
Chevy Med. Grey	MGY

Item	Qty.	Description	Part No.	Item	Qty.	Description	Part No.
	1	Ramp Assy, Base & Ext, 30" Manual, 2002 GM	E41519???A3001	7	2	Spring, Torsion, .406" O.D. x .065" WD x 1.85" LG	51570
1	1	Ramp, Extension/30" Manual/2002 Venture	E41503???	8	1	Cable, Latch, Swing-Out Ramp	51662
2	1	Ramp, Base/30" Manual/2002 Venture	E41502???	9	2	Screw, #6 x 1/2", Oval, Phillips, Zinc	24136
3	22	Screw, #10-32 X 1/2" FL HD, HX SKT	17192P	10	2	Bolt, 1/4-20 x 3/4", Flat, Socket, Cap Head	18708
4	22	Nut, #10-32 w/Lockwasher ZC PL	18349	11	1	Button, Guide, .328" Dia., UHMW, Black	52576-2905
5	1	Hinge, Knuckles Cut Out, with Springs	51554	12	1	Bracket, Cable, Swing-Out Ramp, 2905	E50252
6	2	Bumper, Rubber, Recess, .31/.32" O.D.	10950	13	1	Latch, Ramp, 30" Swing-Out Ramp	51652

Repair Parts

Kneel Actuator Assembly



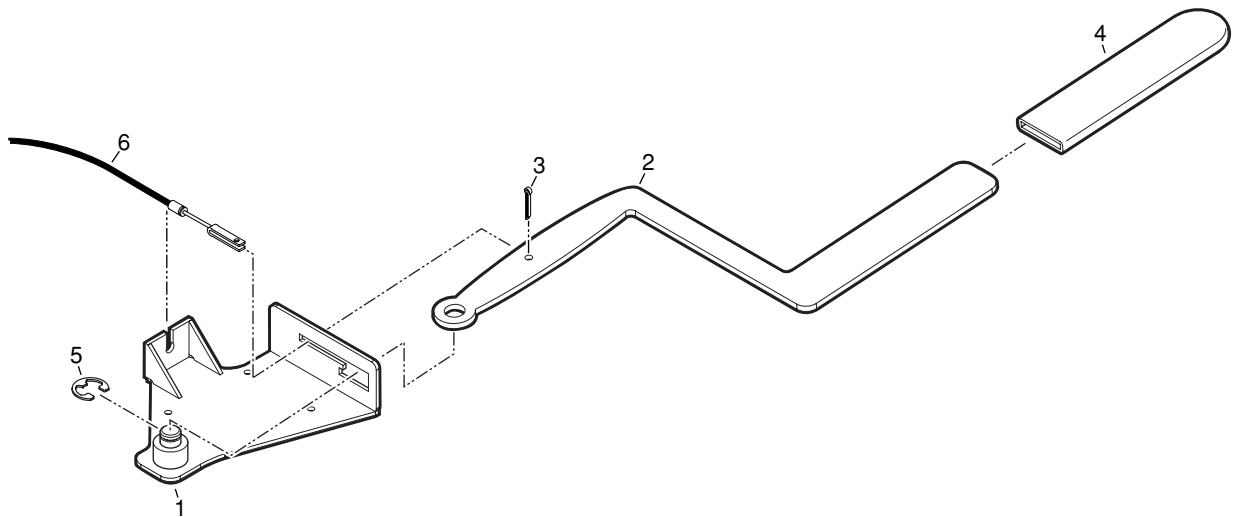
Item	Qty.	Description	Part No.
	1	Kneel System Assy. *See Note Below	E40281A
1	1	Actuator, Kneel	E51410-06
2	1	Bracket, Manual Release Cable	E50113
3	1	Screw, #10-32 x 1/2", Set	26613
4	1	Cable, Manual Release	EC42042
5	2	Pin, Cottered - 4 x 4 Leaf Chain	21759
6	2	Bolt, Chain - 7/16-14 x 1-1/2" (4x4)	27538
7	2	Pin, Cotter - 1/32" x 1/2" (4x4)	23173
8	1	Chain, Leaf - 4x4-.5 Pitch x 18.5"	27201R018.5

Item	Qty.	Description	Part No.
9	2	E-Clip, 1/2" Shaft	26810
10	1	Pin, Kneel Actuator	E40325
11	1	Wmt, Bracket, Frame - Kneel	E40281W
12	1	Roller Assy, Kneel Chain	E40317A
13	1	Pin, Clevis - 1/2" x 2 1/4"	10908
14	1	Pin, Cotter 1/8" x 1"	12359
15	1	Bracket, Chain Retainer	E40295
16	1	Nut, Jam - 7/16-14, Hex	14414
17	1	Adapter, Axle to Chain - Kneel	E40287

*Note: Assembly E40281A contains Items 1-15 with Qty. 1 of Item 6.

Repair Parts

Kneel Actuator Manual Release Assembly



Item	Qty.	Description	Part No.
	1	Release Assembly (Items 1,2,4,5 & 6)	E40335A
1	1	Release Weldment	E40335WBK
2	1	Release Handle	E40336BK
3	1	Pin, Cotter - 1/8" x 1/2"	30358*
4	1	Handle Grip - Black	26613
5	1	E-Clip, 3/8" Shaft	84383
6	1	Cable, Manual Release	EC42042

* Not included in assembly E40335A

Specifications

The following specifications are basic to the GM Entervan conversion (as equipped).

- ☐ **Weight:**
 - Overall Weight of Stock Van (depends on type of van): Approximately 3850 pounds
 - Conversion Add-On Weight (depends on type and options): Approximately 350 pounds
- ☐ Power source is 12 VDC battery with negative ground.
- ☐ Electronic System Controller for power door and power ramp.
 - Obstruction Sensing
- ☐ Electromechanical Kneeling System (option) incorporating:
 - Factory (OEM) General Motors load leveling suspension
 - Heavy-duty weatherproof linear actuator with electric brake
 - Industrial four-leaf roller chain
 - Manual release (mechanical brake override)

The performance data contained within the **Operations Cycle Times Chart** provides general performance criteria. This information is compiled from tests conducted on **standard** Entervan conversions equipped with optional power features meeting the following **constant** operational specifications.

Operational Specifications:

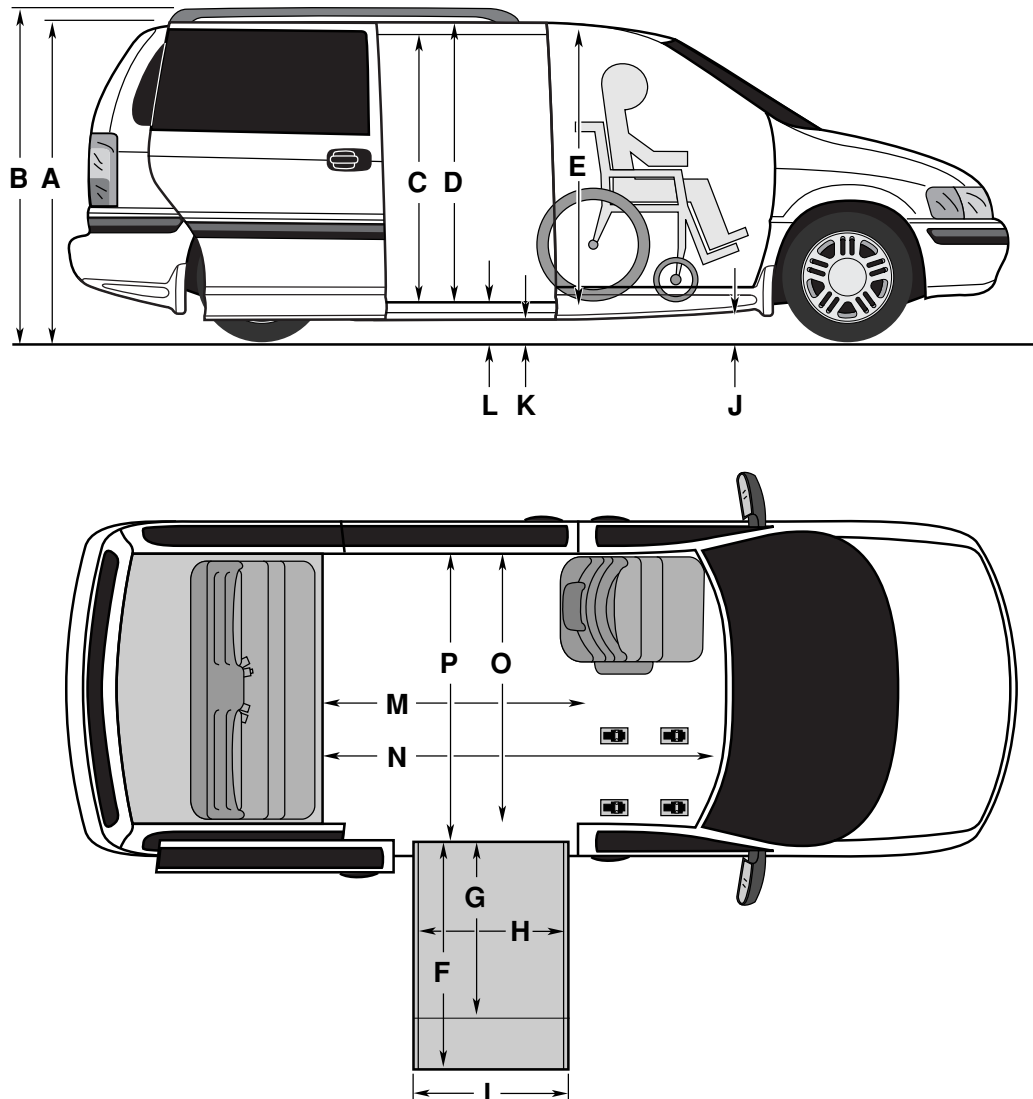
- Environmental temperature of 72° F. Extremely low temperatures can moderately affect cycle time.
- Fully charged 12 volt DC power source. Low voltage will moderately affect test results.
- Door and ramp cycles timed with vehicle in kneeled (lowered) position.

Operations Cycle Times		
Operation		Duration (Min. to Max.)
Kneel (Down)	Actuator Run Time	11.25 sec. to 11.94 sec.
	Lower Time only	6.32 sec. to 7.39 sec.
Door Open		5.80 sec. to 6.28 sec.
Ramp Unfold	Motor Run Time only	5.62 sec. to 6.34 sec.
	Fully Deployed	9.66 sec. to 10.30 sec.
Ramp Fold		11.52 sec. to 11.68 sec.
Door Close		8.34 sec. to 8.54 sec.
Kneel (Up)	Actuator Run Time	9.58 sec. to 10.26 sec.
	Raise Time only	5.13 sec. to 5.84 sec.

Dimensions

Overall Height of Van	A	70-3/4"
Overall Height of Van with Luggage Rack	B	73-1/2"
Door Opening Usable Height (Slide Doors)	C	56"
Interior Height at Center of Van	D	59-1/2"
Interior Height at Driver and Passenger Positions	E	58"
Ramp Length	F	52"
Ramp Length (First Section Only)	G	31-3/8"
Ramp Width (Usable Clear Opening)	H	30"
Ramp Width	I	30-5/8"
Ground Clearance at Frame	J	5-1/2"
Ground Clearance at Slide Doors	K	6-1/4"
Height at Floor	L	9-3/8"
Interior Floor Length (Flat Ramp Area)	M	54"
Overall Interior Floor Length	N	89-1/2"
Interior Width Behind Driver Seat	O	56"
Interior Width at Middle of Ramp	P	60"

Due to manufacturing tolerances both with the OEM vehicle and the conversion components, all dimensions may vary slightly from those shown.



Warranty

☐ In accordance with the GM 6 year/100,000 mile corrosion warranty, The Braun Corporation warrants to the purchaser of its Entervan conversion that the metal fabrication on or of the frame, floor and lowered door extension are free from defects in material and factory workmanship for a period of 6 years or 100,000 miles on the odometer, whichever occurs first. The Braun Corporation further warrants to the purchaser that the remainder of the modifica-

tions and alterations for associated parts are free from defects in material and workmanship for a period of 36 months or 36,000 miles, whichever comes first. For clarification purposes, the following chart outlines The Braun Corporation Entervan warranty coverage. Refer to your GM warranty information booklet for all GM OEM (factory) limited warranty details.

Years/Miles in Service	Specific Area Covered
<p>36 Months or 36,000 Miles (whichever comes first)</p>	<p>Entervan frame and floor structural components.</p> <p>Entervan ramp, door and associated structural components.</p> <p>Entervan electrical components including but not limited to switches, wires, relays, connectors and the controller.</p> <p>Entervan electromechanical kneel systems including but not limited to electric actuator, chain, pulleys and associated hardware</p> <p>Entervan appearance items including but not limited to interior floor covering and slide door lowered extension assemblies.</p>
<p>6 Year or 100,000 Miles (whichever comes first)</p> <p>Corrosion Warranty see *Exceptions at right</p>	<p>Corrosion Warranty:</p> <p>Entervan frame, floor and lower door modification metal fabrication corrosion applies to perforation only. Entervan lower slide door modification corrosion applies to outer-body sheet metal and paint. Perforation is a rust-through condition such as an actual hole in the metal.</p> <p>* Exceptions: Cosmetic or surface corrosion (resulting from stone chips for example) would not be covered or repaired under this coverage. If corrosion does not cause holes, and is not the result of usage and/or environmental conditions, repair coverage lasts for 3 years or 36,000 miles, whichever comes first.</p>

☐ Both the 6 year/100,000 mile corrosion and the 3 year/36,000 mile warranties described above commence on the date the conversion is put into service, providing the warranty registration card is completed and received by The Braun Corporation within thirty days of the purchase.

☐ The Braun Corporation agrees to repair or replace any of its Entervan factory-installed parts found to be defective within the appropriate warranty period or mileage. This warranty also covers the cost of labor for the repair or replacement of said parts for one year provided that the repair is authorized by The Braun Corporation and carried out by an authorized service establishment (a Braun labor

schedule determines the cost allowance for repairs). The Braun Corporation will not honor any warranty claim for repairs or replacement of parts unless the claim is submitted with the appropriate factory warranty authorization data and the repairs or replacement of the parts are completed by a factory-authorized repairman. The factory authorization data, together with the name and location of the factory-authorized repairman, can be obtained by either written or telephone contact with The Braun Corporation at the address appearing in this manual.

☐ The return authorization procedure must be adhered to in order to process any warranty and repair claims (details on following page).

Warranty

- ☐ The Braun Corporation reserves the right to designate where any warranty work is to be performed.
- ☐ The Braun Corporation also reserves the right to examine any defective workmanship or part prior to any authorization of necessary repairs. This Entervan warranty is not intended to replace or substitute any other warranties issued by the original manufacturer of the vehicle or other suppliers of components. This warranty shall not apply to any part or workmanship that may become defective due to misuse, neglect, accident or other casualty, modifications or alterations or unauthorized repairs. Further, this warranty shall not extend to parts or workmanship that may become defective because of the failure of anyone to operate the same in accordance with the printed instructions of The Braun Corporation or because of operation of the same beyond its capacity.
- ☐ This warranty does not cover normal maintenance, service, or periodic adjustments necessitated by use or wear.
- ☐ Second buyers of a Braun Entervan conversion may transfer the remaining warranty, if any, by obtaining a transfer of warranty application from The Braun Corporation. This application must be returned to The Braun Corporation within thirty days from the date you purchase the vehicle and proof of the date of purchasing must be supplied with the transfer of warranty application. There will be a minimum warranty transfer fee.
- ☐ The Braun Corporation shall not be liable for any incidental or consequential damages resulting from any breach of warranty.
- ☐ The Braun Corporation shall not be liable for towing charges, travel and lodging, or any other expense incurred due to the loss of use of vehicle or other reason.

Return Authorization Procedure

When processing any warranty claims (parts, repairs, etc.), all requests must be processed through The Braun Corporation Product Support Department. Call 1-800-THE LIFT (extension 3009) during normal working hours. Product Support will issue a Return Material Authorization (RMA) number and detail the procedures required for processing returns and/or authorizing credit.

The last eight digits of the vehicle identification number (VIN) **must be provided when filing a warranty claim or ordering parts.**

Braun Corporation Product Bulletin

Subject: Braun In-Floor Ramp-equipped Entervan

Effective: February 2004 (published June 2004)

The front section of this service manual is applicable for Braun Entervan lowered floor conversions of GM minivans equipped with folding ramps. **Disregard this supplement if** you are servicing a folding ramp-equipped Entervan.

Refer to this supplement when troubleshooting an in-floor ramp-equipped Entervan or ordering replacement parts. An electrical schematic, a wiring diagram, ramp and motor assembly exploded views and a below-floor obstructions illustration applicable

for the in-floor ramp conversion are provided.

Call 1-800-THE LIFT if you have any questions regarding this bulletin.

All illustrations, descriptions and specifications in this supplement are based on the latest product information available at the time of publication. The Braun Corporation reserves the right to make changes at any time without notice.

Service: Refer to the Maintenance and Service Requirements section and the Safety Precautions appearing on page 2 of the front section of this manual before beginning service procedures.

Maintenance: Keeping the in-floor ramp and ramp cassette area clean is the most effective preventive maintenance practice to exercise. Dirt, mud, snow, ice and other foreign objects entering the cassette could result in potential ramp problems. Stress this point and encourage the consumer to keep this area as clean as possible.

Troubleshooting: The Troubleshooting section on pages 6-9 of the front section of this manual can be generally referred to with the exception of the ramp system. Refer to the electrical schematic, the wiring diagram and the ramp and motor assembly exploded views provided in this supplement when servicing or troubleshooting the in-floor ramp system.

Auxiliary Power Supply: Do not connect auxiliary devices directly to the vehicle battery. Doing so **may result in damage to electrical system and/or electronic components.**

Two fuse blocks are provided as an auxiliary power source for dealer-installed auxiliary electrical device(s). Fuse block details, specifications and access procedures are provided on pages 11 and 12 of the front section of this manual.

Below Floor Obstructions: When installing aftermarket equipment in an Entervan, obstructions below the floor must be avoided. Obstructions include wiring, fuel system, brake lines, etc. Installers must be aware of these obstructions.

Refer to the illustration on page 3 of this supplement to avoid contacting or damaging vital components under the floor of an in-floor ramp-equipped Entervan.

In-Floor Ramp Entervan Service Supplement 30530 Contents

Repair Parts

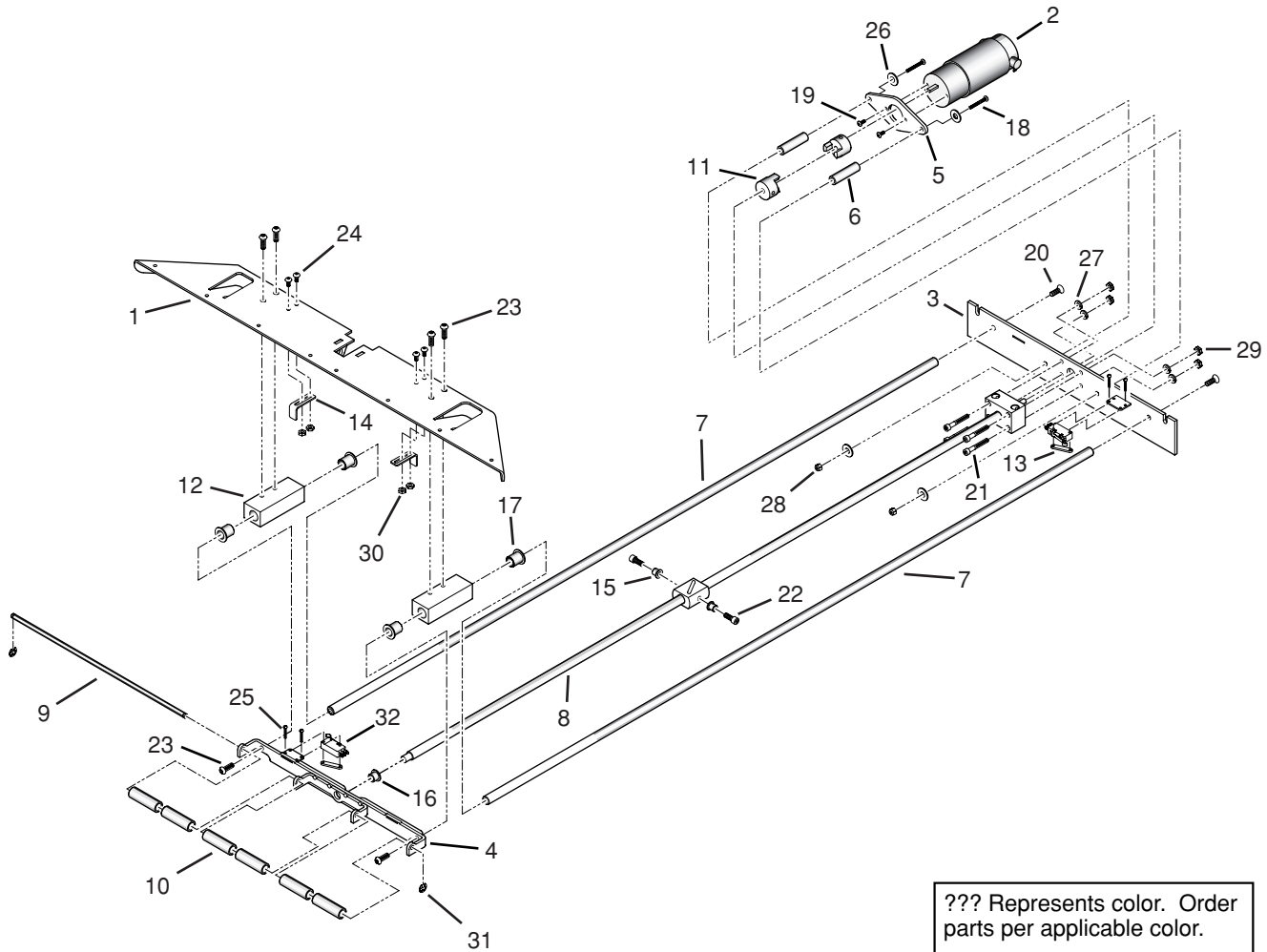
In-Floor Ramp Carriage and Motor Assembly	2
In-Floor Ramp Assembly	3

Below Floor Obstructions	4
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Troubleshooting

Power Door, In-Floor Ramp and Kneel Wiring Diagram	5A, 6A
Power Door, In-Floor Ramp and Kneel Electrical Schematic	5B, 6B

In-Floor Ramp Carriage and Motor Assembly

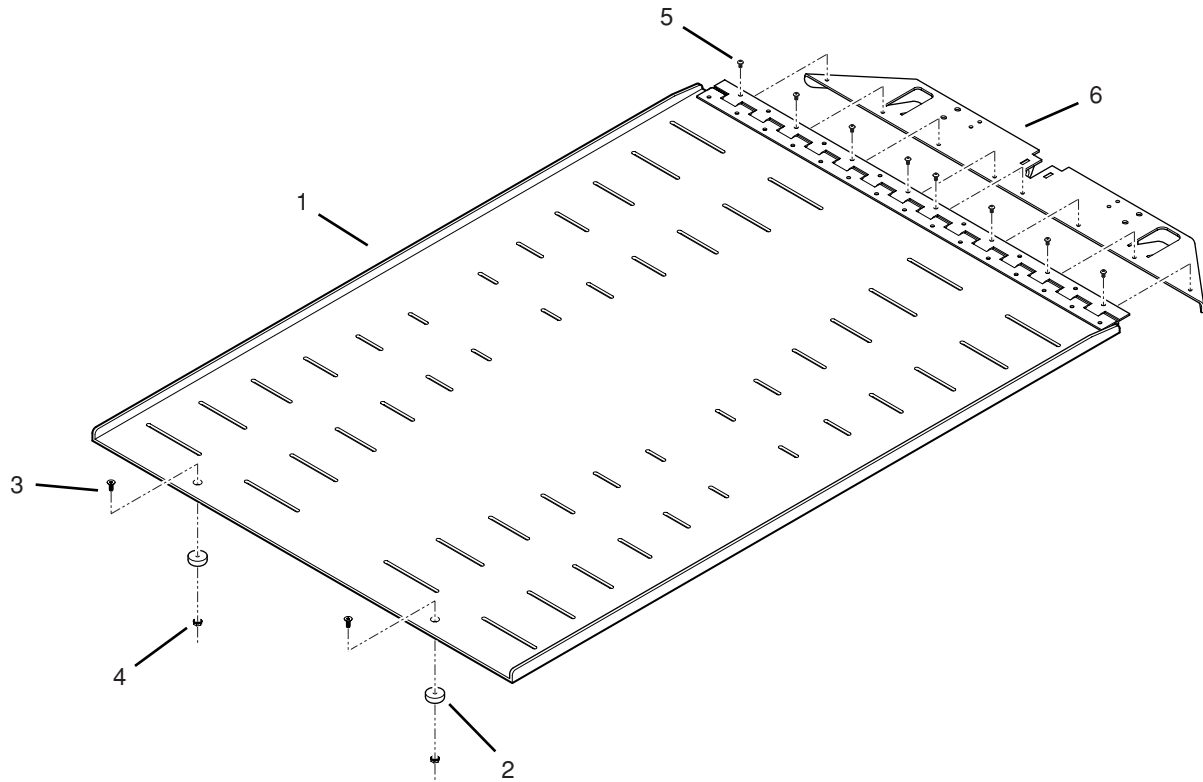


??? Represents color. Order parts per applicable color.

Color	???
Chevy Neutral	NEU
Chevy Med. Grey	MGY

Item	Qty.	Description	Part No.	Item	Qty.	Description	Part No.
1	1	Carriage Plate Weldment	EC40027W	17	4	Bushing, Flange, 1/2" I.D., Igus	30291
2	1	Gear Motor, 12 VDC/5.91 Ratio, Pitman	30312	18	2	Screw, 1/4-20 x 3", SHCS	30344
3	1	Attachment Plate Weldment	EC40011W	19	2	Screw, #10-32 x 3/8", Button Head, HXSK	27718
4	1	Roller Weldment, In-Floor Ramp	EC40053W	20	2	Bolt, 1/4-20 x 3/4", Flat Socket Cap, Aito Bk.	18708
5	1	Motor Mount	EC40014	21	4	Screw, #12-24 x 1-1/2", HSHCS	30297
6	2	Motor Standoff	EC40042	22	2	Screw, #14-28 x 5/8", HSHCS	30298
7	2	Rod, Chrome, 1/2" Diameter	EC40023	23	6	Bolt, 1/4-20 x 3/4", Button Head, Allen	20143
8	1	Assembly, Ball Screw, Nut, Bearing Block/Purch	EC40018	24	4	Screw, #10-32 x 3/8", Button Head, HXSK	27718
9	1	Pin, Ramp Roller	EC40045	25	4	Screw, #4-40 x 3/4", Round Head, Auto Black	11483
10	6	Roller, Ramp, UHMW, Black	EC40041	26	4	Washer, 1/4", Flat, Auto Black	10062
11	2	Coupler, Iron Spider Hub, 1/4" Bore	EC42044	27	4	Washer, 1/4", Lock, Auto Black	10067
12	2	Slide Block	EC40012	28	2	Nut, 1/4-20, Nylock, Auto Black	14614
13	2	Plate, Tapped, #4-40, Microswitch	24998	29	4	Nut, #12-24, Hex	11554
14	2	Tab, Contact, Microswitch	EC40036	30	4	Nut, #10-32, With Lockwasher, Auto Black	18349
15	2	Bushing, Bronze, Flange, 1/4" I.D, 3/8" O.D.	30293	31	2	E Clip, 1/4" Shaft, .21 Groove, Retainer	30295
16	1	Bushing, Flange, 3/8" I.D., Igus	30292	32	2	Microswitch, 125V AC, 30V DC, .1A	30296

In-Floor Ramp Assembly



??? Represents color. Order parts per applicable color.

Color	???
Chevy Neutral	NEU
Chevy Med. Grey	MGY

Item	Qty.	Description	Part No.
	1	Ramp Assembly Complete, In-Floor, 30"	EC40060A???
1	1	Ramp Assembly, In-Floor, 30" Aluminum	EC40010A???
2	2	Bumper, Rubber, Recess, 31/32 " O.D.	10950
3	2	Screw, #10-32 x 1/2", FHDHXS, With Patch	17192P
4	2	Nut, #10-32, With Lockwasher, Auto Black	18349
5	8	Screw, #10-32 x 3/8", Button Head, HXSK	27718
6	1	Carriage Plate Weldment	EC40027W

Below Floor Obstructions

When installing an electrical tie-down, power seat or other auxiliary electrical device in an Entervan, obstructions below the floor must be avoided. Obstructions include wiring, fuel system, brake lines, etc. Installers must be aware of these obstructions.

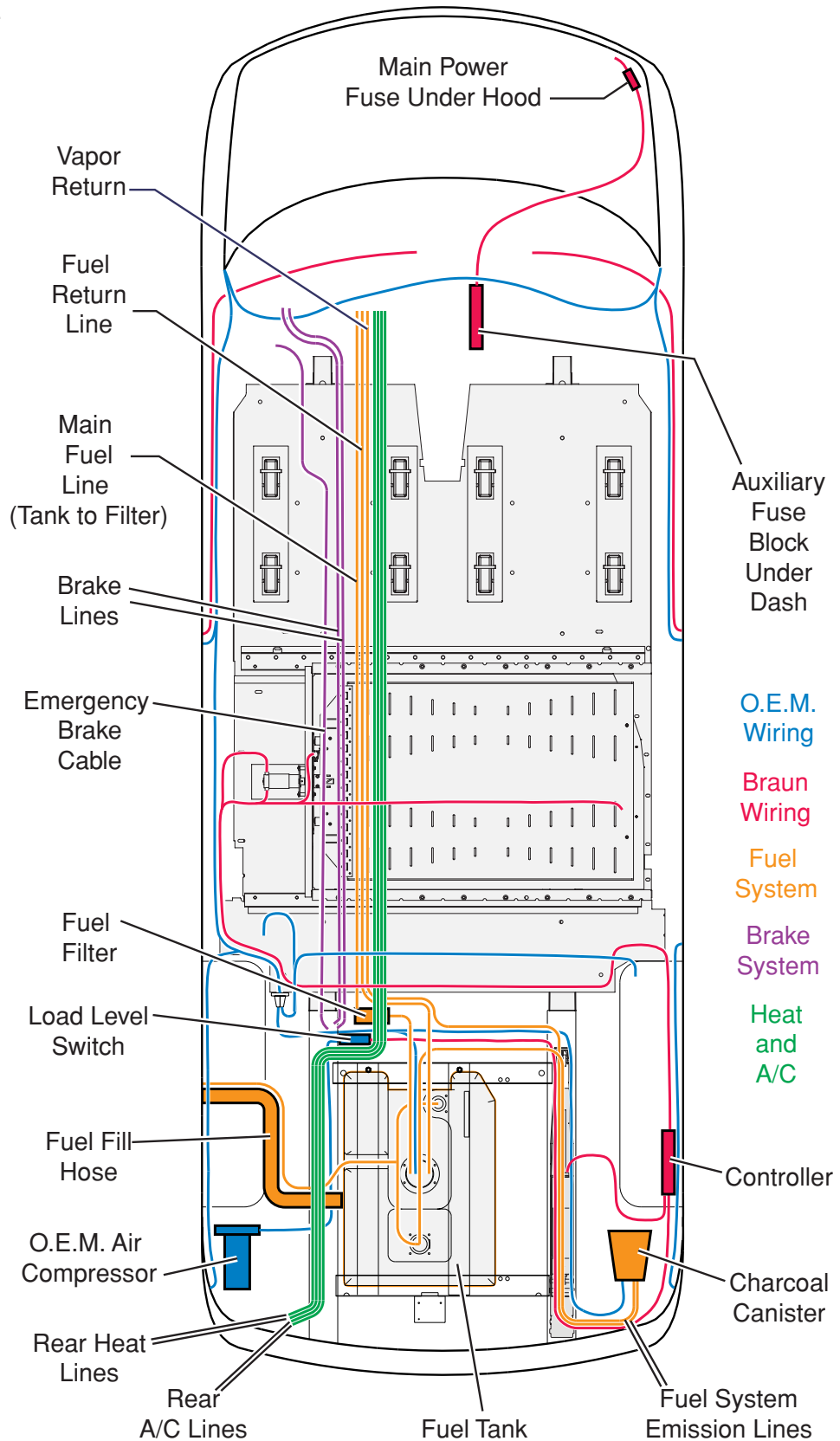
⚠ WARNING

Check for obstructions such as wires, gas lines, exhaust, etc. before drilling or cutting through floor. Failure to do so may result in serious bodily injury and/or property damage.

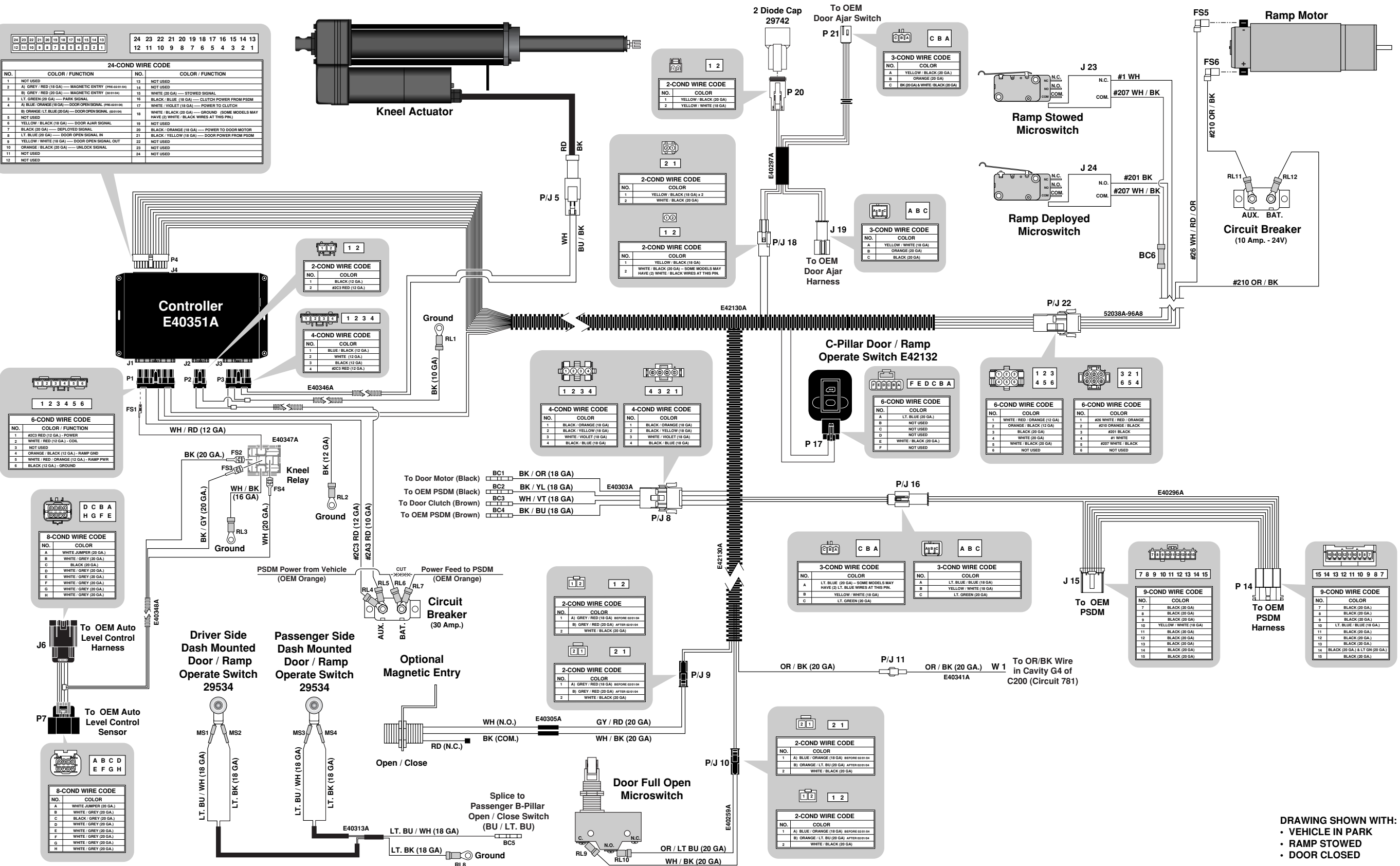
Refer to the illustration when installing aftermarket equipment to avoid contacting or damaging vital components under the floor. **Drilling or cutting into such obstructions may result in potential hazards as well as property damage.**

Note: Some wiring harnesses shown may not be present. Avoid all harness locations.

In-Floor Ramp Entervan Below Floor Obstructions



Power Door, In-Floor Ramp and Kneel Wiring Diagram



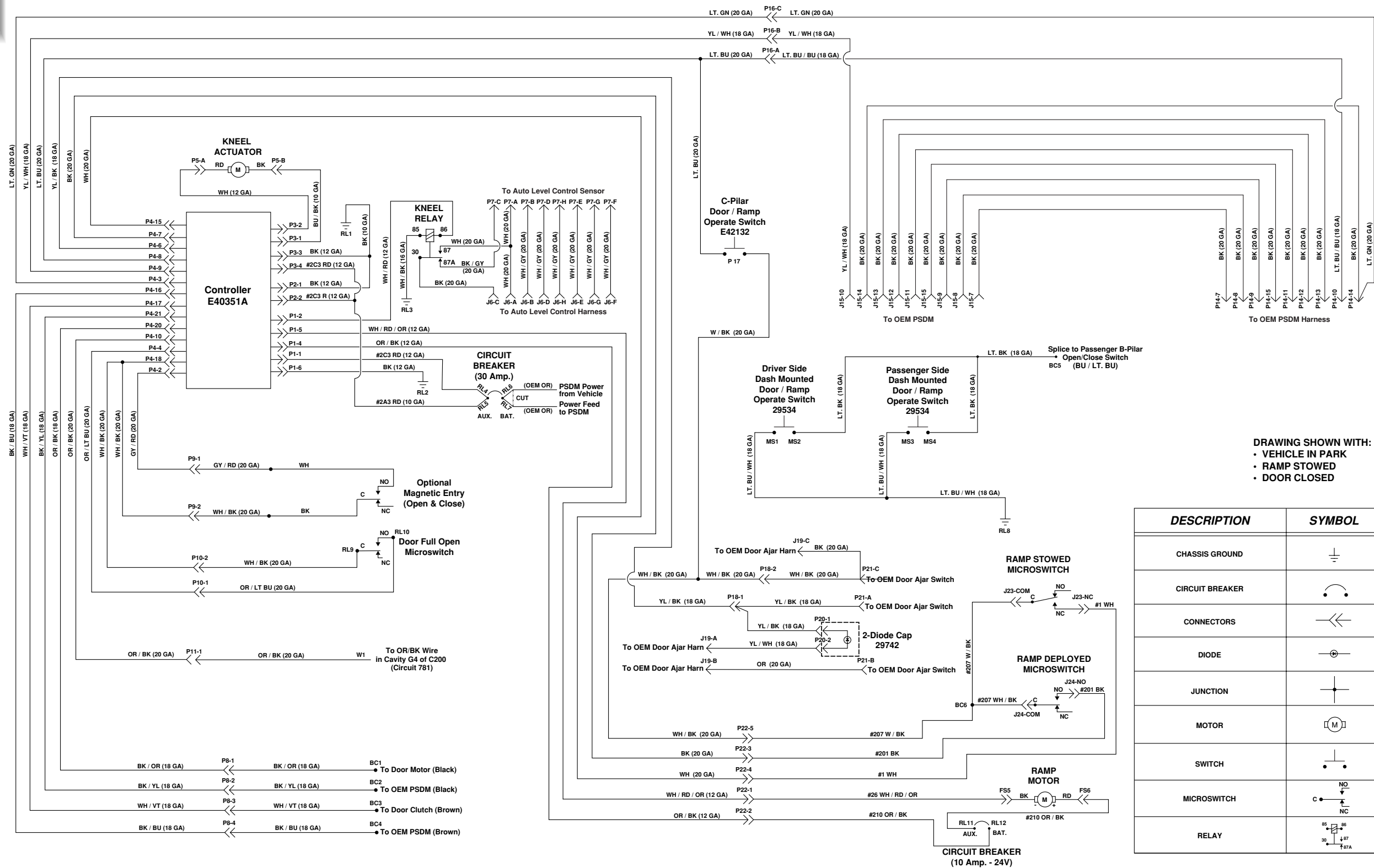
DRAWING SHOWN WITH:

- VEHICLE IN PARK
- RAMP STOWED
- DOOR CLOSED

**Unfold for
Power Door,
In-Floor Ramp and
Kneel Wiring Diagram**

In-Floor Ramp Entervan Service Supplement 30530

Power Door, In-Floor Ramp and Kneel Electrical Schematic



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featuring
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Braun Entervan® Limited Warranty

The Braun Corporation agrees to repair or replace any of its Entervan factory-installed parts found to be defective within the appropriate warranty period or mileage. This warranty also covers the cost of labor for the repair or replacement of said parts for one year provided that the repair is authorized by The Braun Corporation and carried out by an authorized service establishment (a Braun labor schedule determines the cost allowance for repairs). The Braun Corporation will not honor any warranty claim for repairs or replacement of parts unless the claim is submitted with the appropriate factory warranty authorization data and the repairs or replacement of the parts are completed by a factory-authorized repairman. The factory authorization data, together with the name and location of the factory-authorized repairman, can be obtained by either written or telephone contact with The Braun Corporation at the address listed below.

The return authorization procedure must be adhered to in order to process any warranty and repair claims.

The Braun Corporation reserves the right to designate where any warranty work is to be performed.

The Braun Corporation also reserves the right to examine any defective workmanship or part prior to any authorization of necessary repairs. This Entervan warranty isn't intended to replace or substitute any other warranties issued by the original manufacturer of the vehicle or other suppliers of components. This warranty shall not apply to any part or workmanship that may become defective due to misuse, neglect, accident or other casualty, modifications or alterations or unauthorized repairs. Further, this warranty shall not extend to parts or workmanship that may become defective because of the failure of anyone to operate the same in accordance with the printed instructions of The Braun Corporation or because of operation of the same beyond its capacity.

This warranty does not cover normal maintenance, service, or periodic adjustments necessitated by use or wear.

Second buyers of a Braun Entervan conversion may transfer the remaining warranty, if any, by obtaining a transfer of warranty application from The Braun Corporation. This application must be returned to The Braun Corporation within thirty days from the date you purchase the vehicle and proof of the date of purchasing must be supplied with the transfer of warranty application. There will be a minimum warranty transfer fee.

The Braun Corporation shall not be liable for any incidental or consequential damages resulting from any breach of warranty.

The Braun Corporation shall not be liable for towing charges, travel and lodging, or any other expense incurred due to the loss of use of vehicle or other reason.

Note: See Warranty section within manual for detailed warranty coverage chart.



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29988
May 2004



Consumer Entervan®
featuring GM Minivans

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